ESG
Practices in
ASEAN
&
Korea:
Pathways
Towards
Sustainability

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Foreword

In recent years, environmental, social, and governance (ESG) has emerged as crucial metrics of evaluating the sustainability and ethical impact of business and investment, gaining significant prominence in the global business landscape.

The adoption of ESG practices and adaptability to evolving regulations, albeit not an entirely novel concept, has now assumed paramount importance for businesses striving to thrive in the era of Sustainable Development Goals (SDGs). Today, the integration of ESG principles is not merely a commendable initiative but an imperative, serving as a foundational criterion for the successful operation of businesses committed to making a positive impact.

Within the ASEAN region, the role of micro, small, and medium-sized enterprises (MSMEs) cannot be overstated. Accounting for 44.8% of the region's GDP and 85% of employment, MSMEs serve as the backbone of the world's fifth largest economy. Amid such importance, MSMEs often face difficulties in accessing ESG investment due to knowledge gaps. Hence, it is essential to formulate tailored regulations for MSMEs to embrace the dynamic ESG pillars.

This initiative also helps Korean companies seek expansion in the ASEAN region by aligning their operations with ESG standards. It is to be noted that this process requires a comprehensive assessment of ESG status in both ASEAN and Korea.

In this light, the ASEAN-Korea Centre, as an inter-governmental organization mandated to promote trade and investment between the two regions, wishes to contribute to opening up a new chapter in ASEAN-Korea ESG cooperation by publishing this guidebook, *ESG Practices in ASEAN and Korea: Pathways Towards Sustainability*. It aims to serve as a comprehensive guidebook for navigating through ESG trends and practices. Through the research of the current ESG landscape of the two regions, the guidebook is expected to support policymakers, investors, and consumers to respond to growing demands for comprehending and accommodating ESG practices.

Ultimately, it aims to underscore ESG as a linchpin in sustainable development, stimulate business and investment in the regions, and elevate ASEAN-Korea cooperation to the next level. This publication marks the beginning of the ASEAN-Korea Centre's emphasis on ESG as a crucial driver of sustainable development and partnership between ASEAN and Korea.

The research covers the following: an overview of global ESG standards and development of regulations, profiles of each ASEAN Member State and Korea focusing on ESG policies and practices, and sectoral guides to identify potential ESG business and investment opportunities within ASEAN. The guidebook concludes with key insights on ASEAN intra-regional and sectoral ESG practices, along with a way forward in strengthening the ESG partnership between ASEAN and Korea.

I hope this publication acts as a valuable tool for businesses currently operating in the ASEAN market and those considering future entry for ventures and investments, ensuring compliance with diverse ESG standards in the global market. It is also our goal that the guidebook raises awareness on regional initiatives and future directions for a wider group of stakeholders, encompassing government and academia.

Lastly, I would like to express my deepest gratitude to our dedicated partners who made this endeavor possible: Asia School of Business, ASEAN Center at the Korea University Asiatic Research Institute, and Korea Trade-Investment Promotion Agency. Their generous and unwavering support has brought this publication to full fruition.

November 2023

Kim Hae-yong

Secretary General of the ASEAN-Korea Centre

List of Abbreviations

ABC	Associations of Banks in Cambodia
ACMF	ASEAN Capital Markets Forum
ADB	Asian Development Bank
AIIB	Asian Infrastructure and Investment Bank
AOIP	ASEAN Outlook on the Indo-Pacific
APAEC	ASEAN Plan of Action for Energy Cooperation
ASEAN	Association of Southeast Asian Nations
BAU	Business as usual
BCG	Bio-Circular-Green
BCX	Bursa Carbon Exchange
BIS	Bank of International Settlement
BNCCP	Brunei Darussalam Climate Change Policy
BNM	Bank Negara Malaysia
BOT	Bank of Thailand
BSP	Bangko Sentral ng Pilipinas
CAGR	Compound annual growth rate
CBAM	Carbon Border Adjustment Mechanism
CCPT	Climate Change and Principle-Based Taxonomy
CCUS	Carbon capture, usage and storage
CG	Corporate governance
Code	Investment Governance Code for Institutional Investors I
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CRMSA	Climate Risk Management and Scenario Analysis
CSR	Corporate social responsibility
DEI	Diversity, equity, and inclusion
EAS	East Asia Summit
EEC	Eastern Economic Corridor
EPF	Employees Provident Fund
ESG	Environmental, social, and governance
EU	European Union
EV	Electric vehicle
FIT	Feed-in tariffs
FLEG	Work Plan for Forest Law Enforcement and Governance
FOLU	Forestry and other land use
FSC	Korean Financial Services Commission
FY	Financial year
GDP	Gross domestic product
GHG	Greenhouse gas
GLIC	Government-Linked Investment Companies
GMIS	Green Mark Incentive Schemes
GRI	Global Reporting Initiative
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
ILO	International Labour Organization
IPG	International Partners Group
ISPO	Indonesian Sustainable Palm Oil
ISSB	International Sustainability Standards Board

JETP	Just Energy Transition Partnership
KASA	Ministry of Environment and Water
K-ETS	Korea Emission Trading System
KIBS	Knowledge-intensive business services
K-Taxonomy	Korean Green Classification System
LCTF	Low Carbon Transition Facility
LQS	Local qualifying salary
LTS4CN	Long-Term Strategy for Carbon Neutrality
MAS	Monetary Authority of Singapore
MCCG	Malaysia Code of Corporate Governance
MCCS	Myanmar Climate Change Strategy
MNC	Multinational corporations
MSDP	Myanmar Sustainable Development Plan
MSME	Micro, small and medium-sized enterprise
NAP	National Action Plan on Business and Human Rights
NBC	National Bank of Cambodia
NESAP	National Environment Strategy and Action Plan
NGO	Non-governmental organization
NPAGE	National Plan of Action on Gender Equality
NPS	National Pension Service
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
OJK	Otoritas Jasa Keuangan (Financial Services Authority)
PCAF	Partnership for Carbon Accounting Financials
PDP8	Eighth National Power Development Plan
PEZA	Philippine Economic Zone Authority
PGG	Principles of Good Governance
PLWS	Productivity-Linked Wage System
POJK	Peraturan OJK (OJK Regulation)
PPPs	Public-private partnerships
PWM	Progressive Wage Model
R&D	Research and development
RAI	Responsible Agriculture Investment
RIA-Fin	Roadmap for Financial and Monetary Integration in ASEAN
RPJMN	National Medium-Term Development Plan
SASB	Sustainability Accounting Standards Board
SDG	Sustainable Development Goals
SEA-MaP	Southeast Asia Regional Program on Combating Marine Plastics
SEC	Securities and Exchange Commission
SERC	Securities and Exchange Regulator of Cambodia
SGX	Singapore Exchange
SME	Small and medium-sized enterprise
SOCSO	Social Security Organization
TCFD	Task Force on Climate-related Financial Disclosures
TVET	Technical and Vocational Education and Training
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UN	United Nations
US	United States
VBIAF	Value-Based Intermediation Financing and Investment Impact Assessment Framework
WTE	Waste-to-energy
WWF	World Wildlife Fund

Executive Summary

Environmental, Social, and Governance (ESG) practices are a rapidly emerging and fast-evolving global business trend. The Association of Southeast Asian Nations (ASEAN) Member States are increasingly incorporating ESG practices into their business operations. The adoption of ESG practices has mainly been driven by domestic policy and by the international financial system and supply chains, which are increasingly demanding transparency and disclosures with regards to ESG. Therefore, ESG practices in ASEAN are dynamic and differentiated, driven by a complex set of domestic and international stakeholders, and offer both risks and opportunities.

More economically advanced ASEAN Member States tend to have more advanced ESG regulatory and governance structures compared to other member states. Different countries demonstrate leadership in different domains of ESG practices. For example, Singapore is a leading sustainable finance and carbon services hub while Indonesia, Thailand and Viet Nam are leaders of the electric vehicles (EVs) market. The Philippines has been highly successful in ensuring publicly listed firms disclose their greenhouse gas emissions, while Malaysia has launched initiatives to encourage ESG adoption by MSMEs. Cambodia and Lao PDR are increasingly using sustainable bonds to finance their development, while Brunei has recently launched a national program to expand the use of solar power. Myanmar has made progress in recent years to enhance environmental protection, while Korea has an Advanced ESG Infrastructure plan that encompasses support for ESG initiatives in MSMEs and efforts to boost ESG investment.

Especially in the area of finance, there is a concerted effort to develop ASEAN-wide regulatory frameworks, such as the ASEAN Taxonomy for Sustainable Finance. While providing uniform definitions and regulatory structures, these frameworks also provide a large degree of flexibility for individual member states to set their own timelines and thresholds. In other sectors, such as energy, ASEAN regional cooperation is also increasing. The ASEAN Secretariat and ASEAN Member States actively engage international partners to build capacity, share knowledge and access funding related to ESG practices.

The most visible sectors in ASEAN from an ESG perspective are sustainable and social finance, ESG service providers, construction and real estate, infrastructure and transportation, manufacturing, EVs, agriculture and forestry, energy, and waste management. While ESG also impacts other economic sectors, these nine sectors offer the greatest ESG-related business opportunities and are leading the adoption of ESG practices.

The general challenges faced by ASEAN Member States as they seek to implement ESG practices across different sectors are lack of awareness, lack of talent, and high cost. Especially with regard to cost, member states seek to balance the need for social advancement (S) with the need to protect the environment (E). To address these challenges, ASEAN Member States could further encourage the development of ESG standards, action plans, and capacity building both at the national and regional level, while also incorporating ESG standards into public procurement.

The development of ESG practices in ASEAN is especially relevant for Korea. ASEAN is Korea's second largest trade partner and investment destination. Both ASEAN and Korea share the common objective of playing bigger roles in global value chains and pursuing sustainable development. Areas of mutual interest include clean energy, future industries, environmental protection, education, and smart city development. ESG presents a new opportunity for expanded collaboration between the public and private sectors of ASEAN and Korea.

1

Introduction

ESG practices are a rapidly emerging and evolving global business trend, including in the Association of Southeast Asian Nations (ASEAN). ASEAN, which brings together ten Southeast Asian countries—Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam—is home to 664 million people and boasts a USD 3.35 trillion economy (ASEAN Secretariat 2022a). The region is increasingly seen as an ESG hotspot due to local regulatory changes, international pressure (especially from business), and its rapidly growing economy. Despite the great economic, cultural, and political diversity among the member states, ASEAN, founded in 1967, has made significant strides towards economic integration, a trend that is being accelerated in the ESG space. At the same time, ASEAN's extraordinary diversity makes versatility a key requirement when exploring the region as an investment destination.

The challenges around ESG adoption in ASEAN mirror the challenges found in other emerging economies due to the need to address not just environmental concerns, but also questions of economic inequality, poverty, capacity development, and economic reforms, to name a few. To ensure the longevity or success of a policy, it is important to focus on all three elements in tandem. For example, focusing solely on environmental issues (E) can inadvertently cause social harm to vulnerable groups (S) without adequate governance structures in place (G).

Although ASEAN is not a major contributor to climate change relative to its population and historical record of emissions, it will be disproportionately affected by the consequences of climate change (Freychet et al. 2022). Furthermore, the projected growth of the regional economy will be accompanied by a rapid increase in its greenhouse gas (GHG) emissions during the coming decades. This is a sign of the region's economic potential but also an impending challenge from an environmental perspective.

While every country and business must balance their economic needs with ESG criteria, the challenges in ASEAN seem much greater, more urgent, and more important than in developed economies. This is because many ASEAN Member States seek to address both large environmental and societal issues at once, while having only limited financial and governance capacity to do so. If ASEAN can succeed in growing its economy while reducing its environmental footprint and economic inequality, it will have achieved another "Asian Miracle." Credible and just ESG practices will play a key role in achieving this goal.

This report details the state of play of ESG practices within ASEAN Member States and addresses the most important knowledge gaps about ESG practices as viewed from the perspective of investors, businesses, and regulators in the region and beyond.

This report is based on research conducted between October 2022 and June 2023. The report entails an extensive review of relevant professional and academic literature and policy documents, as well as over 70 exclusive interviews with business leaders, regulators, bankers, ESG service providers, non-governmental organizations (NGOs), journalists, and academics across all ten ASEAN Member States.

The report addresses the following research questions:

1. What are the trends and drivers of ESG practices in the ASEAN region?
2. How do ESG policies (including incentives) affect ESG

practice and investment performance in ASEAN?
3. What are the barriers to ESG adoption in ASEAN, especially among micro, small, and medium-sized enterprises (MSMEs), and which best practices can help overcome them?

All three research questions are explored in this introductory chapter at a broad ASEAN-wide level, and in later parts of the report through individual country and sectoral investment guides. Given the different circumstances of each ASEAN country including their economic sectors, there are significant variations in the influence of various stakeholders, global ESG trends, and government regulations.

Amid such a dynamic ESG business environment, it is important to consider the barriers and opportunities for adopting best practices by ASEAN businesses. Of note are the difficulties that MSMEs often face in accessing ESG investment (highlighted in the third research question). This report will therefore provide both a broad overview of ESG practices and relevant information and advice for owners and managers of MSMEs based in, or doing business with ASEAN.

It is important to recognize both the risks and opportunities of ESG. Some business leaders view ESG from a compliance perspective and respond to its challenges to avoid exclusion from supply chains and financing. At a deeper risk management level, business leaders should realize that raising ESG awareness could cause rapid shifts in demand, dramatically shortening the life cycle of certain assets, technologies, and products. On the other hand, those behind emerging technologies and resources need to realize that ESG-related goals present a major business opportunity.

This report aims to contribute to the development of ESG practices and investment within the ASEAN region by:

- serving as a valuable resource for all stakeholders in the ESG ecosystem, encompassing companies, investors, government, and academia;
- providing valuable information to businesses, enabling them to better comprehend policies, regulations, and incentives when they implement ESG practices;
- facilitating an accurate understanding of ESG practices across various countries and industries;
- providing comparative analyses to help companies identify optimal market entry and relocation options;
- focusing on developing best practices and sharing valuable knowledge in the ESG field, which is expected to contribute to promoting greater business effectiveness and efficiency;
- and cascading ESG management practices from large corporations to MSMEs.

Ultimately, this report is aligned with the national objectives of the pursuit of sustainable development and aims to further the cause of inclusive growth.

This chapter continues with an attempt to understand and define ESG investment and related practices (section 1.1). This is followed by a discussion of the "ASEAN Way" of formulating and adopting ESG practices, related regulations, and capacity building (section 1.2). The next section lays out the main insights that potential ESG investors should keep in mind as they navigate the ASEAN region (section 1.3). The chapter concludes with a discussion of the role of the Republic of Korea (hereinafter referred to as Korea or South Korea) in supporting the development of ESG practices in ASEAN (section 1.4).

1.1 Defining ESG Practices: Aspirations, Taxonomies, and Greenwashing

The premise of responsible investment and sustainable finance, as defined by the United Nations (UN) and the World Bank, hinges on the idea that ESG criteria are just as relevant as commercial and economic concerns. The term "ESG" first gained prominence in 2005 when under the leadership of then-UN Secretary General Kofi Annan, a group of large investors signed on to the non-binding Principles of Responsible Investment. These principles outlined a commitment to invest according to ESG criteria, to actively engage shareholders, and to act transparently with regards to ESG-related issues (Baumast 2013).

Since then, these aspirational goals have gradually transformed into more quantifiable and binding standards through both private and public sector initiatives. The recent publication of detailed ESG taxonomies that identify which economic activities are deemed to be sustainable by financial regulators is the latest step in a global movement towards the creation of standardized, transparent, and measurable frameworks for evaluating ESG criteria.

Within the context of ASEAN, the 2019 Joint Statement from the ASEAN Finance Ministers and Central Bank Governors Meeting (AFMGM) noted that: "sustainable finance plays an important role to improve our economic efficiency, prosperity, and competitiveness, while protecting and promoting ecological systems, and enhancing cultural diversity and social well-being."

Although the distinction between the different components of ESG finance is not always clear, environmental considerations (E) are centered on climate change mitigation and adaptation. Furthermore, other general issues related to the environment can include biodiversity preservation, pollution prevention, and the circular economy. Social considerations (S) refer to issues of inequality, inclusiveness, labor relations, investment in human capital and communities, as well as human rights issues. The governance (G) of public and private institutions, including management structures, employee relations, and executive remuneration, plays an important role in ensuring ESG criteria are included in decision-making processes.

While there is wide agreement about the importance and desirability of ESG investing, there continues to be debate about specific definitions, frameworks, thresholds, data, and reporting standards.

Until recently the question of how to evaluate ESG investment criteria was largely answered by ESG rating agencies, of which more than 150 are currently active (Walther-Thos 2021). Among these, three large ESG rating agencies are often considered to be most influential: MSCI, Refinitiv (both US-based) and Sustainalytics (Netherlands-based) (Lepere 2022). Recognizing the sheer quantity of agencies, criteria, methodologies, and large variations between industries, the OECD notes that "ESG ratings can vary greatly from one ESG provider to another" (Boffo and Patalano 2020).

In order to harmonize the ESG criteria, financial regulators have started releasing their own taxonomies to guide the private sector towards its sustainable finance goals. These taxonomies are often tied to government regulations and

targets (both binding and non-binding) for ESG investment and related environmental and social policy goals.

An overview of key taxonomies is shown in Table 1.1 below. In June 2020 the European Commission published its Sustainable Finance Taxonomy, which has been an important reference point for other taxonomies. Within ASEAN, Malaysia was the first country to publish a taxonomy in 2021, followed by the ASEAN Taxonomy for Sustainable Finance (Version 1) and Korea's National Green Taxonomy later that year.

Year	Name	Main Actors
June 2020	Sustainable Finance Taxonomy (Regulation 2020/852)	European Commission
January 2021	Climate Bonds Taxonomy	Various, including private sector, Asian Development Bank (ADB), Swiss Government
April 2021	Climate Change and Principle-Based Taxonomy (CCPT)	Bank Negara (Central Bank), Malaysia
July 2021	Green Bond Endorsed Projects Catalogue	People's Bank of China and other state finance institutions in China (PRC) (Ehlers et al. 2021)
November 2021	ASEAN Taxonomy for Sustainable Finance	ASEAN Finance Ministers and Central Bank Governors Meeting
December 2021	National Green Taxonomy	Ministry of Environment, Korea (ROK) (Song et al. 2022)

March 2023	ASEAN Taxonomy for Sustainable Finance – Version 2	ASEAN Finance Ministers and Central Bank Governors Meeting
July 2023	Thailand Green Taxonomy	Bank of Thailand (BOT)
October 2023 (expected)	Green Classification Framework of Hong Kong	Hong Kong Monetary Authority

Table 1.1: Selected Key Sustainable Finance Taxonomies.

Although such taxonomies provide greater clarity to investors, a recent study released by the Bank of International Settlement (BIS) notes that some of the newly published taxonomies have significant shortcomings. These include a lack of relevant and measurable sustainability performance indicators and details and a lack of verification of achieved sustainability benefits (Ehlers et al. 2021). While the taxonomies themselves are new, research shows that their results overlap closely with several of the major ESG rating agency scores (Dumrose et al. 2022), suggesting continuity in the definition of ESG criteria.

In the second version of the ASEAN taxonomy, the authors note that the main value of the document lies "in providing a common language" to discuss ESG issues, while also noting that "availability, access, transparency, and/or quality of data is regarded as the single greatest barrier to successful implementation of the ASEAN Taxonomy."

While these taxonomies are still new and will be subject to further revisions, one of the most contentious parts is the labeling of natural gas and nuclear power as "green" energy sources, as is the case for the European, ASEAN, and Korean taxonomies. The use of natural gas—which still emits significant amounts of GHG—is seen as an attempt at "greenwashing" the industry, which refers to the act of deceptively presenting a particular product or policy as being environmentally friendly. Major investors, notably insurance firms that underwrite climate-related risks have been opposing this classification. Amidst this controversy, the ASEAN taxonomy is notable for taking a tiered, rather than a binary approach, with "green" (good), "amber," and "red" (bad) activities.

Concerns about greenwashing are important factors in the public discourse on sustainable finance and ESG criteria. Although more prominent in the West, many Asian countries, notably Singapore, have seen a number of greenwashing scandals in recent years, including those by energy company Sembcorp, DBS Bank, and e-commerce firm Lazada.

Greenwashing is a very short-sighted and damaging business practice, so exposure by the media and NGOs plays an important role in keeping businesses accountable and in raising public awareness about ESG practices. According to an influential Singapore-based ESG editor and consultant, greenwashing scandals are likely to feature more prominently in ASEAN countries in the coming years as ESG criteria become more widely adopted and public and media awareness increases. The uncovering of greenwashing scandals, while damaging to the ESG movement in the short term, plays an important role in developing more credible ESG evaluation tools in the long term.

Firms involved in greenwashing tend to overstate their sustainability achievements by omitting critical information about the claim's timeline, scale, or verifiability. For example, firms may claim net-zero emissions that will only be achieved in the (very) distant future, claim to have a sustainable supply chain that is not sufficiently traceable, or claim to achieve ESG standards that cannot be verified in practice.

Firms can avoid greenwashing by ensuring the veracity and accuracy of the sustainability claims they make.

1.2 The "ASEAN Way" of Learning and Adopting ESG Practices

The ASEAN region is economically, socially, and culturally diverse, and its member states have different historical experiences and political systems. This makes it challenging for ASEAN to reach a consensus, especially on an issue that is as complex and impactful as ESG practices. Yet the development of ESG practices, and the ASEAN taxonomy in particular, is a prime example of contemporary ASEAN policy-making. ASEAN aims to balance the national interests of its members with regional collaboration and policy coordination through a well-developed network of informal policy-making.

This policy approach appears to be succeeding, as ASEAN has managed to develop a more unified perspective while also giving its member states a large degree of autonomy. According to financial regulators and industry experts, the ASEAN taxonomy has provided a common language and framework for ESG practices, while countries can still diverge on the precise thresholds and timeline for implementation.

While this approach has allowed ASEAN Member States to balance their own economic, environmental, and social needs, it has also provided a degree of regulatory certainty for businesses. Interviews with regulators and senior business leaders in Indonesia, the Philippines, and Thailand indicate that industry players often anticipate the rollout of new ESG standards in their own countries based on the regulations adopted at the ASEAN level and in economically stronger member states such as Singapore.

Another important factor in harmonizing ASEAN ESG practices is the large number of informal meetings that take place between ASEAN Government officials. In addition to annual meetings of finance ministers and central bankers, there are regular ASEAN ministerial meetings on the environment, social welfare and development, culture and arts, and economics, complemented by a plethora of workshops, conferences, and seminars with different stakeholders from around the region. These meetings encourage the exchange of information and experiences and help to establish an "ASEAN Way" of approaching different issues, even if this is not strictly formalized. In this sense, the ASEAN Secretariat sits at the heart of a "networked informal institution" that facilitates policy coordination across member states (Manulak 2021).

Within ASEAN policy circles, there appears to be a gradual shift away from unilateral policy approaches towards more regional collaboration. In addition to sustainable finance, this also appears to be happening in other areas such as energy, where tangible progress is being made on the ASEAN power grid. An ASEAN-wide grid can ensure lower costs, lower emissions, and more reliable electricity supply for ASEAN Member States.

A final feature of the "ASEAN Way" of ESG adoption is its open governance framework. Starting with the ASEAN Secretariat, ASEAN bodies frequently collaborate with other international organizations on areas of mutual interest. This occurs through grants as part of official development aid, through capacity building and knowledge-sharing, and for some countries, through official intergovernmental agencies, such as the ASEAN-Korea Centre, the ASEAN-Japan Centre, and the ASEAN-China Centre. This open governance approach allows ASEAN to rapidly mobilize resources to help address issues in the region, including those concerning ESG. By diversifying its cooperation and relationships among various organizations and countries, ASEAN is able to safeguard its autonomy.

1.3 ASEAN as an ESG Investment Destination

While ESG practices are spreading widely across ASEAN, the rate of adoption varies among the countries and sectors. This section outlines key takeaways for investors that generally apply to all ASEAN Member States while specific guidelines for individual countries and sectors will be covered in the succeeding sections.

- **Finance and export sectors are taking the lead** due to pressure from foreign buyers, investors, and local regulators. In contrast, domestic-focused sectors of the economy tend to be slower in ESG adoption as there is limited bottom-up consumer demand for sustainable products and services. Firms targeting the ESG space should focus on export-oriented sectors and the financial sector, and not purely the domestic market.

- **ASEAN is cost sensitive** due to relatively low income among large parts of the population in most member states in comparison to advanced economies such as Korea. This means that there is a genuine interest in ESG, but very limited commercial incentives to provide services that require premium pricing.
- **Riding the ESG wave** in ASEAN is possible for investors who build up their business first in countries with relatively high ESG standards and then expand to late adopters as these ESG practices diffuse to other ASEAN Member States. The framework of the early adopters will likely be replicated by late adopters. Conversely, businesses being pushed out of one ASEAN country due to regulatory pressure may soon face similar regulatory pressure in other member states.
- **High-tech opportunities** mainly exist in the scaling-up of new sustainability and ESG-related technology, as ASEAN countries boast a young, tech-savvy and increasingly educated population, and limited regulations. At the same time, the local R&D ecosystem is relatively underdeveloped (with a few exceptions), so technology is often imported and then adapted to local needs.
- **A large skills gap** is often cited as a key challenge for the region. As a result, training, consulting, and automation/software tools that augment limited local skillsets will find ready demand throughout the region.
- **Sustainable infrastructur**e is a key area of interest for the region, as its energy, waste management, and transportation infrastructure will continue to need large-scale investments in the coming decades. It is a key priority of governments to ensure that these are developed in a more sustainable way, although high costs can hinder these policy goals.
- **Carbon offset opportunities** are prevalent in Indonesia, Malaysia, Thailand, Myanmar, and Cambodia, in order of their respective potential for the development of nature-based solutions for carbon emission offset opportunities. The development of carbon credits and carbon markets is still in an early stage, and countries generally welcome international participation in this sector (Koh et al. 2021).
- **Regulatory uncertainty and market instability** are a concern in many ASEAN countries, especially due to the newness of ESG-related business practices. Policies such as feed-in tariffs (FITs) are designed to support the development of renewable energy sources by providing a guaranteed, above-market price for producers. However, they have sometimes led to extremely high investor interest that far exceeded policymakers' expectations, necessitating a freeze or sudden policy adjustment (Lam

2022). Interviews with business leaders and ESG experts also indicate that enforcement of regulations can pose a challenge, as does lobbying by special interest groups. Investors who focus on ESG should plan for possible delays or complications in policy execution and have contingencies ready in the case of sudden policy reversals.

1.4 ASEAN and Korea: Partners on an ESG Journey

ASEAN-Korea relations have undergone significant advancements, progressing from being Sectoral Dialogue Partners in 1989 to establishing a Strategic Partnership in 2010. Their economic partnership has witnessed substantial growth as ASEAN is now the second largest trade partner and investment destination for Korea (KITA 2023). In 2022, bilateral trade between Korea and ASEAN reached a noteworthy milestone of USD 207.5 billion, with a significant year-on-year increase of 17.5%. The enhanced economic relations between ASEAN and Korea and their economic growth are interpreted in the context of participation in the global value chain. ASEAN trade (exports and imports) has continued to expand, rising from USD 2.4 trillion in 2012 to USD 3.8 trillion in 2022, representing growth of about 54% in the last decade (Tanuwidjaja and Santoso 2023). ASEAN members have signed 130 regional trade agreements (RTAs) and experienced a 5% growth in the inflow of FDI, reaching USD 224 billion amidst the global FDI decline (ASEAN Secretariat and UNCTAD 2023). The Asia Development Bank stated that ASEAN has become one of the most important regional hubs for GVCs supported by FDI and RTAs. In 2021, Korea's involvement in global value chains stood at 53.1%, surpassing the global average. Additionally, its exports accounted for over 50% of its GDP (Yea at al. 2022).

With geopolitical tensions and the ongoing pandemic reshaping global supply chains, there has been a notable acceleration in production shifts and foreign direct investment towards ASEAN. In response, Korea must prioritize diversification and regional cooperation with ASEAN to maintain its strong market position. As ASEAN and Korea share the common objective of taking on bigger roles in global value chains and pursuing sustainable development, driving active collaboration on ESG can be an effective strategy for Korea.

To maintain the competitiveness of the Korean corporate sector, the Korean Government and industry stakeholders have launched numerous ESG initiatives. In 2021, the National Pension Service (NPS), Korea’s largest institutional investor, unveiled comprehensive initiatives to expand its ESG investment framework. Notably, the NPS demonstrated its commitment to climate finance through the "Declaration of Divestment from Coal," which involved phasing out investments in both domestic and foreign coal projects. The Korean Financial Services Commission also officially announced an action plan requiring all publicly listed companies to submit corporate governance (CG) and sustainability reports by 2030, following similar steps taken by Malaysia and Singapore, which have implemented such requirements for listed companies from 2025 onward.

Shortly after the ASEAN Taxonomy for Sustainable Finance was launched in November 2021, Korea's Ministry of Environment proposed principles and standards for classifying green economic activities under the Korean Green Classification System (K-Taxonomy) in December 2021. This system has been in place since January 2023.

Under the Yoon Suk Yeol administration, the Presidential Commission on Carbon Neutrality and Green Growth was established, and ESG features prominently in the president's program of 110 National Priorities. This includes enhancing ESG capabilities in public institutions, supporting ESG management in the private sector, promoting models that connect growth with social value, expanding ESG funding, and providing tailored ESG consulting for MSMEs and venture capital firms. The consultation for MSMEs is being prioritized in the context of fostering green industries and technologies. Korea's Ministry of Strategy and Finance has also announced an Advanced ESG Infrastructure plan, which encompasses support for ESG initiatives in MSMEs and efforts to boost investment. Furthermore, the first Public-Private Partnership Committee for ESG policy convened in February 2023, indicating a collaborative approach between the government and private sector in shaping ESG strategies and implementation. These developments demonstrate Korea's rapid movement towards ESG investment in recent years.

The implementation of a carbon price system is an area where Korea has played a leading role. The Korea Emission Trading System (K-ETS) was launched on January 1, 2015, making it the first nationwide cap-and-trade program operating in Asia. It encompasses various sectors, including energy, construction, waste, and aviation. The market-based program covers approximately 73% of total GHG emissions in Korea. In 2015, when K-ETS was established, it experienced remarkable growth with an annual trading volume of 1,242 tons and trading value of USD 12.6 million (KRW 13.9 billion). In 2022, the trading volume reached 2,593.5 thousand tons with a trading value of USD 440 million (KRW 571.4 billion). That represents an impressive annual growth rate of 54.4% in trading volume and 70% in trading value. The expansion and increasing trading activities within K-ETS demonstrate the market's growing recognition and engagement in GHG emission reduction efforts. By placing a price on carbon emissions, K-ETS aims to incentivize companies to reduce their emissions and foster a transition towards a low-carbon economy in Korea.

As of December 2022, there were 11,567 companies listed in the Korean company directory for overseas expansion, with over 50% of them focused on ASEAN countries (KOTRA 2023). Among these companies, 31 large Korean companies have made commitments to RE100 (Renewable Energy 100%), demonstrating their dedication to utilizing renewable energy sources. Additionally, 17 financial companies have joined the Partnership for Carbon Accounting Financials (PCAF), indicating their commitment to measuring and disclosing carbon emissions.

Korea's proactive introduction of ESG initiatives has primarily focused on environmental measures, although some notable governance and social measures have also been implemented. Regarding CG, the Stewardship Code, a set of principles and guidelines that outline the responsibilities and expectations of institutional investors, was introduced in 2016 with a small number of participants. As of August 2023, it has been adopted by more than 200 financial institutions (KCGS 2023). The Korean Financial Services Commission (FSC) has also devised a plan to gradually introduce English language disclosure requirements starting from 2024. In addition, the FSC is imposing greater responsibilities on boards of directors and institutional investors to improve transparency and ensure better access to information.

Regarding social initiatives, the Serious Accidents Punishment Act has been enforced since January 27, 2022. It requires managers to ensure the safety and health of all employees and applies to businesses or workplaces with five or more full-time workers. If a major industrial accident occurs due to a manager's failure to ensure health and safety standards, they can face legal punishment.

With regards to diversity, equity, and inclusion (DEI) initiatives, an increase in female directors is expected to strengthen Korean boards' capabilities and performance while reducing corporate ESG-related risks such as supply chain management failure, regulatory penalties, reputational damage, lack of board independence, and diminished investor confidence.

In February 2020, the revision of the Capital Market Act introduced a quota system that prevents listed companies with assets exceeding USD 1.5 billion (KRW 2 trillion) from forming a board of directors with members of a single gender. Since this act was implemented in Korea in August 2022, 151 companies (56.1%) of 269 listed companies have appointed female executives to their board of directors and 181 (10.0%) of 1,811 board members from the 500 largest companies were women, representing a substantial rise from 3.0% in 2019. Furthermore, in 2022, 14% of newly appointed board members were female, marking a twofold increase from the 7% recorded in 2021. Among the 345 listed firms boasting total assets exceeding USD 750 million (KRW 1 trillion), a significant trend emerged: the proportion of female executive directors among these newcomers surged to 44.6% in 2021, leaping from 24.6% in 2020, and then surpassed the halfway point to reach 50.5% in 2022. During the same year, a total of 266 listed firms released CG reports.

Within the realm of the 792 KOSPI-listed companies, 188 (23.74%) took the notable step of establishing an ESG committee under their board of directors. Impressively, the count of ESG committees either freshly created or expanded after 2021 stood at 175, with 41 such committees being introduced in 2022 (Lee 2022). These committees play a pivotal role in implementing ESG principles across their supply chains in alignment with their headquarters' strategies. Taken together, these outcomes strongly indicate that Korean firms are markedly increasing their engagement with ESG activities, spanning not only the domestic arena but also encompassing their value chains and operations overseas.

The ESG regulations and guidelines implemented in Korea and ASEAN may require a significant amount of time and investment before they yield substantial improvements. Given the interconnectedness of Korea and ASEAN in global value chains, both have strong incentives to cooperate and adopt ESG practices. However, this goes beyond mere business objectives and extends to promoting sustainable development. By embracing ESG principles, Korean and ASEAN companies can contribute to environmental sustainability, social responsibility, and economic growth, ensuring a more resilient and prosperous future for both regions.

2

ESG Practices:

Trends, Drivers, and Regulations

This chapter provides an overview of the main trends, drivers, and regulations shaping ESG practices in the ASEAN region. Starting with regional ASEAN-wide initiatives (section 2.1) and a quick scan of key ESG-related indicators across the ten ASEAN Member States (section 2.2), the focus then turns to a more in-depth discussion of the ESG practices of individual member states (section 2.3). The section concludes with a brief discussion of some of the external-to-ASEAN drivers of ESG practices in the region.

2.1 ASEAN Regional Initiatives

The ASEAN Secretariat in Jakarta plays an important role in setting the policy agenda, coordinating policy, and providing a platform for consensus building among the ten governments of ASEAN.

The governments of the ASEAN Member States take turns as chairs of the organization, and during their one-year tenure, they organize the ASEAN Summit and a range of other ministerial and intergovernmental meetings. The chairing government typically has considerable influence in agenda-setting.

ASEAN cooperation is mainly centered on policy coordination between national governments, although there are notable trade agreements, such as the ASEAN Free Trade Area (1992) and the Regional Comprehensive Economic Partnership (2020), the latter extending beyond ASEAN to other Asia-Pacific countries. Therefore, the various ASEAN declarations, plans, frameworks, and standards, provide a pathway for national policy-making that countries move along at their own pace.

There are several relevant ASEAN-level initiatives for ESG practices:

- **ASEAN Taxonomy for Sustainable Finance (2021),** which is developed under the purview of the ASEAN Capital Markets Forum (ACMF), a meeting of financial regulators. This taxonomy provides criteria for identifying sustainable economic activities. The ACMF has also published standards for green, sustainable, and sustainability-linked bonds, as well as sustainable and responsible fund standards.
- **Framework for Circular Economy for the ASEAN Economic Community (2021),** which is developed under the ASEAN Economic Community council meeting, outlines guiding principles and strategic priorities with regards to circular economy initiatives in the region. More specific follow-up strategies are being planned.
- **Declaration on Portability of Social Security Benefits for Migrant Workers in ASEAN (2022),** which is being discussed within the context of the ASEAN Socio-Cultural Community. The declaration aims to facilitate the negotiation of bilateral arrangements to extend social security protection for migrant workers.
- **ASEAN Declaration on the Gender-Responsive Implementation of the ASEAN Community Vision 2025 and Sustainable Development Goals (2017),** which is the most recent declaration on the issue of women and girls, specifically calls on member states to end violence against women, improve women's involvement in governance, and promote gender mainstreaming. ASEAN's Ministerial Meeting on Women and Commission

on Women is actively developing policy in this area.

- **Work Plan for Forest Law Enforcement and Governance (FLEG) in ASEAN (2016),** was adopted at the ASEAN Ministerial Meeting on Agriculture and Forestry and seeks to enhance sustainable forestry management and capacity building and develop standards and systems to trace sustainable forestry products.
- **ASEAN Plan of Action for Energy Cooperation (APAEC) (2020),** which is led by the ASEAN Centre for Energy, seeks to promote cooperation in renewable energy, energy efficiency, clean coal technologies, and nuclear energy as well as facilitate grid and gas pipeline interconnectivity among member states.

2.2 Country Quick Scan

This section provides a brief overview of the performance of ASEAN countries (and Korea) in different ESG-related aspects. The quick scan covers four aspects: economic development and GHG emissions, sustainable finance, renewable energy and emissions offsets, and the regulatory environment. These comparisons are intended as an introduction to the ASEAN countries that are covered in more detail in the individual country reports. A country summary table is included at the end of the section.

Economic Development and GHG Emissions

There is a clear relationship between economic development and GHG emissions among ASEAN Member States, with the least developed countries having the lowest emissions. In these states, the social aspect (S) of ESG is of primary concern and is related to both poverty reduction and the provision of essential infrastructure, healthcare, and education. While the environmental aspect (E) is recognized as important, it plays a more significant role in more advanced economies. Middle-income economies such

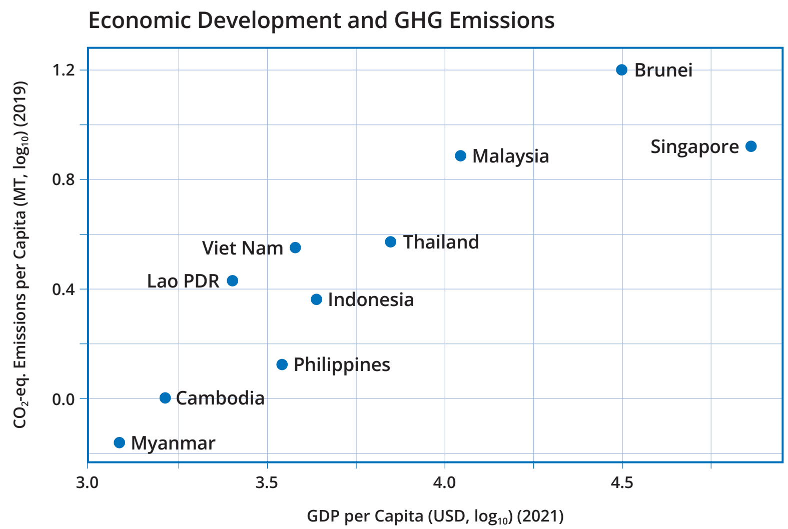

Figure 2.1: Economic Development and GHG Emissions
(Source: World Bank)

as Malaysia and Thailand tend to follow a path that aims to balance social and environmental priorities.

Sustainable Financial Markets

The more economically developed ASEAN Member States have larger and more sophisticated financial markets in which ESG practices are rapidly being adopted. The Philippines has the highest share of publicly listed firms that report their Scope 1 emissions, direct GHG emissions that occur from sources that are controlled or owned by an organization, while Singapore, generally regarded as ASEAN's financial hub, has the largest volume of sustainable bond issuance. Viet Nam is still an emerging financial market in terms of sustainable finance and related disclosures.

An important concern for ASEAN Member States is their ability to raise funds in their local currencies, as this can significantly reduce the cost of financing. The regional harmonization of financial regulations through initiatives such as the ASEAN Green Taxonomy are aimed at making ASEAN more attractive for international investors.

Renewable Energy and Emission Offsets

There are large differences between ASEAN Member States in terms of their renewable energy use and the availability of GHG emission offsets. While Brunei, Malaysia, and Singapore have negligible amounts of renewable

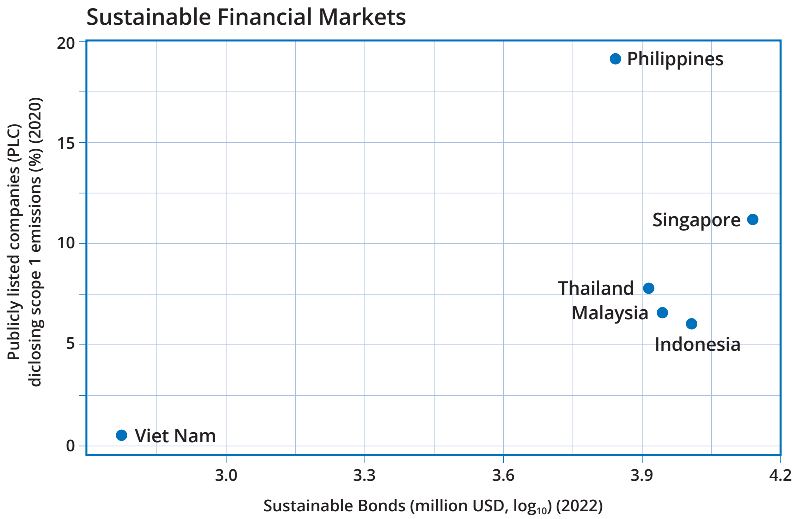

Figure 2.2: Sustainable Financial Markets (Source: World Bank, S&P)

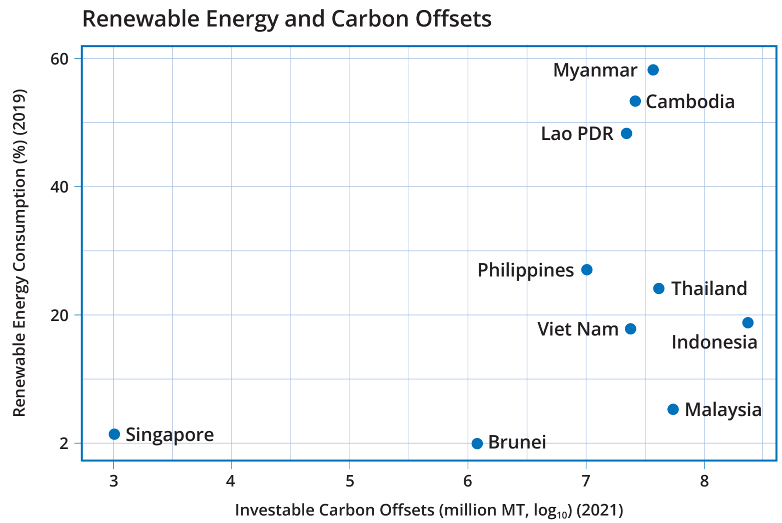

Figure 2.3: Renewable Energy and Carbon Offsets
(Source: World Bank; Koh et al. 2021)

energy consumption, Cambodia, Lao PDR, and Myanmar have a large renewables share due to the availability of hydroelectric power and overall low per-capita energy consumption. There is a risk that these countries' renewable energy share will decline as energy demand increases unless appropriate grid investment and policy support are put in place. Indonesia, Malaysia, and Thailand are countries with the largest investible carbon offset potential due to their significant tropical forest cover.

ESG Laws, Regulations, and International Treaties

With regards to ESG-related laws, regulations, and international treaties, most ASEAN Member States have adopted a comprehensive policy framework supported by environmental rules, social rules (mainly related to labor), and governance rules, including freedom of information legislation, data privacy protection, anti-foreign corrupt practice laws, and whistleblower protection. In countries with a smaller financial sector such as Brunei, Lao PDR, and Myanmar, sustainable finance regulations are more limited.

As an emerging ASEAN member state, Viet Nam stands out for its comprehensive ESG regulatory framework. Brunei, presumably due to its small size, has a relatively sparse regulatory framework for ESG but has recently announced policy initiatives in several areas ranging from renewable energy policy to personal data protection.

The heatmap below (Figure 2.4) provides insight into the diversity of the national ESG regulatory frameworks within ASEAN. ESG regulation has been shaped by a range of economic and political factors, and different governments have been emphasizing different ESG policy areas in alignment with their national priorities.

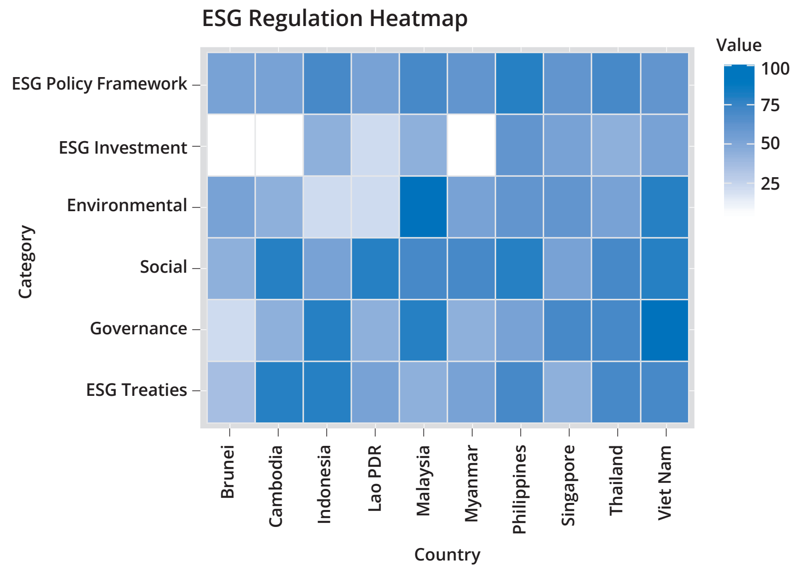

Figure 2.4: Heat Map of ESG Regulatory Framework*

* Dark blue indicates a high level of regulation compared to global best practices. A lighter shade of blue indicates a lower level (see appendix for details on underlying data and methodology).

ASEAN countries are progressing at varying speeds on ESG adoption, influenced by their respective levels of development. However, there are a few common threads. ASEAN countries are grappling with how to balance the "E", "S" and "G" factors, with most policies and initiatives focusing more on the "E" than the "S" and "G" factors. In more developed countries there are numerous policies or regulations in place to strengthen the "G" factor, whereas such measures are comparatively limited in least developed countries. The "S" factor is the most challenging to measure for most countries since it encompasses a broad range of subjective factors that are often difficult to quantify and standardize. While "E" and "G" factors have been more prominently addressed, there is growing recognition of the importance of the "S" factor in ESG policies.

Transitioning to a low carbon economy in a just and orderly manner is ASEAN's main focus at the present time. It is crucial for ASEAN to achieve a harmonious balance between economic development, social equity, and environmental preservation while ensuring that the process is fair, equitable, and beneficial to all stakeholders involved. ASEAN Member States are also focusing on capacity-building by constantly searching for best practices from other countries such as the European Union (EU) or Korea and implementing it in a way that fits each country's circumstances. Needless to say, ASEAN Member States are constantly learning from each other to improve their ESG practices.

Country Summary Table

Country	Main Policies/Regulation/Action			Notable ESG Practices
	Environmental	Social	Governance	
Brunei	2020 Brunei Darussalam Climate Change Policy (BNCCP)	Organizing roadshows to increase financial literacy and ESG awareness	National Economic Blueprint	Government is confronting environmental challenges head-on by working with stakeholders to develop solutions.
	Net-Metering Program	Employment Order 2009	Disclosures are encouraged but not mandated	Government is looking into creating a carbon credit model and determining the pricing for carbon credits.
Cambodia	National Strategic Plan on Green Growth (2013–2030)	National Policy on Lifelong Learning	Cambodian Sustainable Finance Principles	Government has implemented capacity-building initiatives to increase ESG awareness: Cambodia Sustainable Agriculture Summit and Cambodia Climate Change Summit.
	Long-Term Strategy for Carbon Neutrality (LTS4CN)	Law on Minimum Wage	Sustainability reporting is not mandatory but has increased over the past 10 years.	Government is exploring opportunities to issue green bonds as there is high demand from investors.

Indonesia	Indonesia Green Taxonomy	Protection of Indonesian Migrant Workers Law 2017	Sustainability reporting is mandatory for PLCs	Most state-owned banks have either stopped or committed to stop financing new coal-fired power plants.
	Just Energy Transition Partnership (JETP)	Domestic Worker Protection Bill	Indonesia Corporate Governance Roadmap 2014	A lot of manufacturers are being recruited to build and invest in EV infrastructure in Indonesia.
Lao PDR	National Green Growth Strategy 2030	Monthly minimum wage has been gradually increased	Corporate Governance Framework	International financing requirements and changing market expectations are driving ESG adoption among companies in Lao PDR.
	National Biodiversity Strategy and Action Plan	Fourth National Plan of Action on Gender Equality (NPAGE)	Sustainability reporting is not mandatory	Government is taking the necessary steps to promote EV usage in the country.
Malaysia	Climate Change and Principle-Based Taxonomy (CCPT)	Malaysia Shared Prosperity Vision 2030	Sustainability reporting is mandatory for PLCs	CCPT's qualitative approach to describing climate-related activities has been successful.
	Low Carbon Mobility Development Plan (2021–2030)	Productivity-Linked Wage System (PLWS)	Code of Corporate Governance	Government has a number of initiatives to ensure that MSMEs are able to transition to a low carbon economy.

Myanmar	Myanmar Climate Change Strategy (MCCS) 2018–2030	Myanmar Sustainable Development Plan (MSDP) 2018–2030	Companies Law 2018	ESG adoption is driven by needs. E.g., the lack of energy supply and infrastructure is driving companies to adopt renewable energy such as solar.
	New Environmental Policy 2019	No announcements of new social protection policies since 2021 due to recent conflicts	Myanmar has yet to develop its own code of conduct.	
Philippines	National Climate Change Action Plan 2011–2028	Migrant Workers and Overseas Filipinos Act of 1995	Sustainability reporting is mandatory for PLCs.	CSR requirement for listed companies has driven ESG adoption.
	Renewable Energy Act of 2008	Diversity and Inclusion Committee	ESG Taxonomy is being developed.	Government is taking steps to improve the current reporting standards to ensure that they are aligned with international best practices.
Singapore	Singapore Green Plan 2030	Progressive Wage Model (PWM)	Sustainability reporting is mandatory for PLCs.	Financial sector is calling for more regulations and guidelines from the central bank to enhance their ESG practices.

Singapore	Carbon tax	Local qualifying salary (LQS) requirement	Code of Corporate Governance	Singapore launched ESGenome, a disclosure portal for companies to report ESG data in a structured and efficient manner.
Thailand	Bio-Circular-Green (BCG) Economy Model	National Action Plan on Business and Human Rights (NAP) (2019–2022)	Thailand Taxonomy (first draft)	37 Thai companies were included in S&P Global's Sustainability Yearbook 2023, and 12 companies were awarded Gold Class.
	Climate Change Master Plan (2015–2050)	Minimum wage rate increased by an average of 5% in 2022	Form 56-1 One Report	A regulatory body works with social media influencers on Facebook and TikTok to increase financial literacy among young investors.
Viet Nam	One Strategic Framework for Sustainable Development Cooperation	National Strategy on Gender Equality	Sustainability reporting is mandatory for PLCs.	Start-ups are playing a vital role in the fight against climate change by developing climate solutions.
	National Climate Change Strategy 2050	Gender Affirmation Law	Law on Access to Information 2018	Investors are eager to invest in renewable energy, but they need favorable policies to be in place to make that happen.

2.3 Country Profiles

2.3.1 Brunei Darussalam

BRUNEI ESG FACTBOX

General Information	Area: Capital: Population (2022): Major languages: GDP per capita (PPP, current international dollar) (2022): Ease of Doing Business rank (2020):	5,765 km^2 Bandar Seri Begawan 449,002 Malay, English 69,275 66
ESG Profile	GHG emissions (total) (2020): CO_2 emissions (per capita) (2020): Energy consumption (per capita) (2021): Electricity from renewables (2021): Top emitting sectors: Nationally determined contributions:	11,914 ktCO_2e 21.7 tCO_2 103,268 kWh < 1% Energy, waste, industrial processes Reduce total GHG emissions by 20% by 2030
Notable ESG Regulations	– BNCCP – National Economic Blueprint – Electric Vehicles Joint Task Force – Energy White Paper – Employment Order of 2009	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Brunei is a country on the northern coast of Borneo with an abundance of oil and gas resources. The country's high GDP per capita is largely due to oil and gas, also known as the hydrocarbon sector, which accounts for 56.4% of GDP and 90% of exports. The government recognizes the country's overwhelming dependence on conventional energy and is adopting measures to diversify its economy away from hydrocarbons. It has also expressed a commitment to implementing a 2030 Sustainable Development Agenda (SDG). A Special National Coordinating Committee on SDGs has been established to support Brunei's SDG implementation. In terms of green or sustainable finance, however, awareness is still in the early stages and policies and frameworks by the government and the central bank are lacking.

Environmental

Brunei has taken several steps to promote sustainability policies and regulations. The 2020 BNCCP lays out the pathways to achieving national sustainability through ten main strategies, including the goals of reducing GHG emissions, increasing energy efficiency, and promoting renewable energy resources. The government is rolling out plans to encourage the use of electric vehicles (EVs) and public transportation. Tasked with overseeing the development of EVs in Brunei, the Ministry of Transport and Info-Communication conducted a pilot project in 2021 aimed at raising awareness of the use of EVs and assessing the public's response toward the shift. The government will review the public transportation system introduced in 2014 to make it more sustainable and efficient, with the goal of reducing dependence on private vehicles and indirectly lowering government petrol subsidies. The Ministry of Energy also introduced the Net-Metering Program which allows solar photovoltaic system owners to export excess energy generated by their solar panels back into the grid in exchange for credit.

Social

ESG awareness is still in the early stages in Brunei, so little ESG-related monitoring or practices are promoted in the country. However, corporate entities in Brunei have started organizing roadshows to increase financial literacy and awareness of ESG. According to a report by the ADB, some laws focusing on labor-related issues are consistent with ESG factors (Asian Development Bank Institute 2020). An example of this would be the Employment Order issued in 2009 that governs the terms and conditions of employment, including working hours, holidays, wages, overtime, and so on. The Order also stipulates that employees may not exceed 44 working hours per week. This aligns with the sustainable work culture, which prioritizes employee well-being and promotes a healthy and balanced lifestyle.

Governance

The National Economic Blueprint released in 2021 acts as a guide for stakeholders to build on Brunei's economic successes through well-defined policy directions, complementing the Brunei Government's efforts to form a dynamic and sustainable economy as published in Wawasan Brunei 2035, a long-term development plan. One of its strategic priorities is to invest in and promote sustainable businesses and technology at the beginning of their journey toward sustainability. The Brunei Government encourages stakeholders to practice ESG disclosures but does not mandate it (United States Department of State 2022).

Notable ESG Practices

Interviews with respondents from Brunei as well as respondents who work closely with stakeholders in Brunei revealed the following:

An academic from a public university noted that the government was open to communicating with scientists and taking expert opinions into consideration when dealing with environmental protection issues. The professor advised two Brunei ministries on a project involving the construction of a bridge, resulting in its design being amended to preserve peatlands. According to the Forestry Department of Brunei, peat swamp forests make up 15.6% of Brunei's land mass, making its conservation all the more important for the environment.

The government is pushing for a sustainability agenda through different initiatives. Brunei is currently in the early stages of looking into creating a carbon credit model and determining the pricing for carbon credits. A private sector employee attributed a local bank's motivation in creating ESG funds to its alignment with the principle of providing Islamic value-oriented products to clients and shareholders while also supporting the national agenda of achieving net zero by 2050. The Brunei Capital Markets Association is working on an ESG taxonomy, ESG classification, and ESG investor education while also exploring incentives to introduce more ESG products into the market. The interviewee also mentioned that a discussion with the Central Bank will be needed to understand how current sustainable products may be affected if a new definition of sustainable finance is announced in Brunei. On the public awareness side, the interviewee said that TV channels broadcast sustainability-related content regularly to raise awareness in the country.

ESG Highlight

Islamic Finance and ESG Financing Share Similar Values

An Islamic financial institution in Brunei has seamlessly integrated ESG financing into its range of services. The bank acknowledges the striking similarities between Shariah (Islamic law) and ESG values, which both share common objectives and a fundamental principle of avoiding harm.

The regulatory environment in Brunei has played a positive role in encouraging the adoption of ESG practices and the introduction of related financial products in the country. Notably, Brunei is also exploring the concept of pricing carbon credits and implementing a carbon credit model.

Despite the increasing popularity of Islamic and ESG financing in the ASEAN region, there is ample room for improvement. The sustainable finance industry in Brunei is still in a formative stage. There are challenges in data transparency and availability, making it difficult to determine the exact market capitalization for ESG products at present.

Nevertheless, the financial institution is proactively fulfilling its role in educating the public and raising awareness about the significance of ESG practices. The bank aims to drive positive change and contribute to the growth of the sustainable finance sector in Brunei.

2.3.2 Kingdom of Cambodia

CAMBODIA ESG FACTBOX

General Information	Area:	181,035 km^2
	Capital:	Phnom Penh
	Population (2022):	16.8 million
	Major languages:	Khmer
	GDP per capita (PPP, current international dollar) (2022):	5,349
	Ease of Doing Business rank (2020):	144
ESG Profile	GHG emissions (total) (2020):	42,363 ktCO_2e
	CO_2 emissions (per capita) (2020):	1.1 tCO_2
	Energy consumption (per capita) (2021):	4,035 kWh
	Electricity from renewables (2021):	52.93%
	Top emitting sectors:	Forestry and other land use (FOLU), agriculture, energy
	Nationally determined contributions:	Reduce GHG emissions by 41.7% by 2030, half from FOLU
Notable ESG Regulations	– LTS4CN – Cambodia Climate Change Strategic Plan 2014–2023 – Cambodian Sustainable Finance Principles – Law on Trade Unions 2016 – Law on Minimum Wage 2018	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Cambodia is a rapidly growing economy which has announced its desire to combat climate change and transition towards a climate-resilient, low-carbon, sustainable mode of development. The government has developed a localized set of SDG targets called Cambodia Sustainable Development Goals Framework (2016–2030), which was used as a basis for drafting the National Strategic Development Plan (2019–2023). The ESG landscape in Cambodia, however, is still nascent. The National Bank of Cambodia (NBC) and the Securities and Exchange Regulator of Cambodia (SERC) are actively promoting green finance and developing sustainable finance initiatives with other government agencies and development partners to achieve Cambodia's carbon neutrality goal by 2050. However, the ESG regulatory framework in Cambodia still needs to be strengthened to encourage ESG adoption.

Environmental

The government of Cambodia has implemented a few policies to protect the environment and encourage the green economy. Through the LTS4CN, the government outlined priority mitigation actions for each sector to support the country's vision on carbon neutrality. According to an economic analysis, investing in this strategy could create 449,000 new jobs and deliver an additional 2.8% of annual GDP growth by 2050 (NCSD 2021). Furthermore, the government developed the National Environment Strategy and Action Plan (NESAP) (2016–2023) with the goal of making environmental protection and sustainable natural resource management essential parts of the country's economic and social development (ADB 2018). To boost the country's green economy, the government implemented the National Strategic Plan on Green Growth (2013–2030). This policy focuses on efficient use of natural resources, environmental sustainability, green technology, green finance, and green investment.

Social

Cambodia faces a number of challenges in education. To address these issues, the government developed a National Policy on Lifelong Learning, a policy that aims to provide all citizens with access to different types of education. The knowledge gained could be utilized to improve job performance, productivity, and income in the current knowledge-based society. Apart from that, in 2018, the government approved the Law on Minimum Wage to ensure that workers earn a decent income. In January 2023, the government increased the minimum wage for workers in the textile sector from USD 194 to USD 200 due to the rising cost of living. The government has said it will continue to find ways to increase the minimum wage for workers while also making Cambodia an attractive destination for investors in its efforts to improve the living conditions and employability of workers.

Governance

Sustainability reporting practices are not yet widespread in Cambodia and companies are not mandated to disclose their sustainability efforts. Additionally, independent observers have noted that the government faces challenges in enforcing existing environmental and social safeguards (Vannarith 2021). However, according to an analysis by the Sustainability Disclosure Database of Global Reporting Initiative (GRI), sustainability reporting has increased steadily over the past ten years, with the majority of companies using the GRI framework as their reporting guidelines. More companies are expected to adopt ESG principles, making Cambodia's economy more competitive and more attractive to foreign investors. The Associations of Banks in Cambodia (ABC) launched the Cambodian Sustainable Finance Principles with the goal of protecting the environment, people, and cultural heritage by assessing, managing, and mitigating potential risks that may arise from clients' activities, standards, and practices. This principle, which was endorsed by the NBC and the Ministry of Environment, was signed by 46 of 76 ABC member banks.

Notable ESG Practices

Since Cambodia is still at an early stage for ESG, awareness is not yet widespread. Therefore, the government has implemented a few capacity-building initiatives to increase awareness and understanding of ESG issues, such as the Cambodia Sustainable Agriculture Summit, where stakeholders gathered to discuss the best method to transition from current practices to sustainable practices. The government also launched the Cambodia Climate Change Summit, where climate change professionals discussed challenges and opportunities. On top of that, the NBC instructed the ABC and the Cambodian Microfinance Institution to develop mandatory training for financial institutions regarding responsible lending and ESG implementation. These initiatives demonstrate that the government is keen to educate businesses and financial institutions on the importance of ESG.

Despite the level of public awareness, sustainable finance has been actively discussed in the country. The NBC has developed the National Financial Inclusion Strategy (2019–2025), a strategy centered on initiatives around responsible lending, gender-inclusive access to finance, and financial education. A public sector interviewee noted that this strategy can act as a driver for the adoption of green finance as it touches on areas related to ESG and responsible lending. He also added that ESG and the sustainable finance industry will grow in the next five to ten years because the prime minister is an advocate of the ASEAN Green Deal and, to date, numerous green projects have been created and approved by the government.

In terms of green or ESG products in Cambodia, a private sector interviewee said that there are currently no green bonds issued in Cambodia. However, the government is working with the Ministry of Environment and Ministry of Finance to explore issuance opportunities. The International Finance Corporation (IFC) has also conducted training for developing a green bond financing framework. Although the green bond market in Cambodia is quite new, there is room for growth. According to a Green Bond Market Survey report by ADB, more than 60% of respondents, including underwriters and institutional investors, are interested in green bonds. However, the main obstacles to investing in green bonds are lack of resources and capacity as well as lack of supply in the local market. Regulators could consider addressing this issue by publicly stating that the development of the green bond market is one of their top priorities and providing necessary support to local market participants.

ESG Highlight

Cultivating a Carbon Neutral Culture through e-Mobility

A climate change response consulting firm in Cambodia has expanded its scope to establish an electric mobility (e-mobility) ecosystem with the ultimate goal of encouraging Cambodian citizens to actively engage in the carbon neutrality movement. The company's efforts revolve around promoting the adoption of EVs, building charging infrastructure, and enhancing the public perception of e-mobility within the Cambodian community.

The company demonstrates a profound understanding of the urgency and severity of climate change, thereby directing all its projects towards cultivating a carbon-neutral culture. At every stage of the decision-making process, projects are reviewed to ensure that they align with this purpose. Moreover, the company has a dedicated climate change response consulting team, which diligently monitors global developments and initiatives related to carbon neutrality. In a bid to mitigate environmental impact, the company proactively examines potential environmental risks associated with its projects and readily seeks the assistance of external experts in areas where they may require additional expertise. The company believes that adopting ESG principles does not harm the company's competitiveness, but rather strengthens it.

2.3.3 Republic of Indonesia

INDONESIA ESG FACTBOX

General Information	Area:	1.905 million km^2
	Capital:	Jakarta
	Population (2022):	275.5 million
	Major languages:	Indonesian, Javanese
	GDP per capita (PPP, current international dollar) (2022):	14,653
	Ease of Doing Business rank (2020):	73
ESG Profile	GHG emissions (total) (2020):	976,488 $ktCO_2e$
	CO_2 emissions (per capita) (2020):	2.1 tCO_2
	Energy consumption (per capita) (2022):	9,854 kWh
	Electricity from renewables (2022):	19.62%
	Top emitting sectors:	Agriculture, forestry, and other land use
	Nationally determined contributions:	Reduce GHG 43.20% conditionally by 2030, achieve net zero by 2060
	Conventional bonds (USD) (2022):	534 billion
	Sustainable bonds (USD) (2022):	9,968 million
Notable ESG Regulations	– Long-Term Strategy for Low Carbon and Climate Resilience 2050 – Energy Transition Mechanism Project – Sustainable Finance Roadmap Phase II (2021–2025) – National standards for green bonds, sustainable finance, ombudsman, wage policies, social security, non-discrimination	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Indonesia has shown a commitment towards achieving a low-carbon and climate-resilient economy. Through the Enhanced Nationally Determined Contribution (ENDC), Indonesia has increased its GHG emission reduction target from 29% to 32% unconditionally and from 41% to 43.2% conditionally, subject to international support. Indonesia's commitment towards a sustainable economy is also expressed in the National Medium-Term Development Plan (RPJMN) 2020–2024, which includes strategies for environmental sustainability, equitable and just development, and clean and reliable government.

The Financial Services Authority (OJK) is one of the main regulators driving the adoption of ESG in Indonesia. The OJK developed Sustainable Finance Roadmap Phase II (2021–2025) as a blueprint to guide the financial services sector as it transitions to a more sustainable model. It also launched Indonesia's Green Taxonomy to help financial institutions identify and classify sustainable activities (PwC 2023). As a resource-rich country, Indonesia relies heavily on natural resources to sustain its economic growth. To transition to a low-carbon economy, huge investment from both the public and private sectors is required. The country's ESG practices also need to be strengthened to ensure the country's transition is sustainable and equitable.

Environmental

Indonesia is determined to promote the usage of renewable energy and phase out coal production. At the G20 Leaders' Summit in 2022, Indonesia and its international partners agreed to the Just Energy Transition Partnership (JETP), which aims to source 34% of the country's power generation from renewable energy by 2030. The JETP also advances Indonesia's net zero target by 10 years, from 2050 to 2060 with power sector emissions peaking in 2030, seven years ahead of the previous schedule. USD 20 billion will be mobilized over the next five years to support Indonesia's adoption of renewable energy, of which USD 10 billion is expected to be funded by the private sector. Furthermore, to support the early retirement of coal power plants, Indonesia also plans to launch a carbon exchange in the second half of 2023.

Social

International labor migration has provided economic opportunities for Indonesians, especially for low-skilled labor. Based on a report by the World Bank in 2017, more than 9 million Indonesians are working overseas, equivalent to almost 7% of Indonesia's workforce. Indonesia enacted the Protection of Indonesian Migrant Workers Law in 2017 to protect the legal, economic, and social rights of Indonesian migrant workers during and after their employment abroad. Besides that, the Indonesian Government has shown signs of recognizing domestic work as equal to other professional work in terms of legal protection. The president of Indonesia has publicly endorsed the Domestic Worker Protection Bill, which will become law in the near future. This would allow domestic workers, who are mostly women, to enjoy more of the rights given to formal workers.

Governance

Sustainability reporting is mandatory in Indonesia under OJK Regulation (POJK) 51/POJK.03/2017 regarding the application of sustainable finance to financial services, institutions, issuers, and publicly listed companies. This regulation mandates that listed companies publish sustainability reports starting in 2019 for the banking industry and 2020 for listed companies in other industries. Prior to the implementation of this regulation, in 2016, 70 out of 400 companies listed on the Indonesian Stock Exchange (IDX) voluntarily published sustainability reports using GRI guidelines (Gunawan et al. 2022). OJK also cooperated with the World Bank's IFC to develop the Indonesian Corporate Governance Roadmap in 2014 to strengthen corporate governance (CG) regulation for listed companies and new issuers. Complementing the roadmap, the Indonesia Corporate Governance Manual was also published to guide Indonesian companies in benchmarking CG standards and practices on internationally recognized best practices.

Notable ESG practices

Indonesia became the first ASEAN country to issue an SDG-related bond in September 2021. The bond was issued by the Ministry of Finance in collaboration with UNDP. The bond, which raised USD 584 million, will be used to finance social and environmental projects that are aligned with the SDGs (UNDP 2021). Indonesia also uses green *sukuk* (Islamic bonds), with the proceeds used to fund projects that contribute to climate change mitigation and the advancement of the SDGs (PwC 2023). A private sector interviewee noted that all green bonds issued by the government or banks are usually oversubscribed, which proves that the demand for ESG-related products is quite high.

Banks play a vital role in promoting green finance, with an increasing trend of investing in sustainable portfolios. According to a private sector interviewee, most state-owned banks have either stopped or committed to stop financing new coal-fired power plants. In some cases, banks have not explicitly stated that they will stop to do so, but their portfolios indicate that their investment in coal is significantly lower than their investment in renewable energy. For example, the coal portfolio of one state-owned bank is only 1%, while its investment in renewable energy is 2.3%. In response to market dynamics and pressure from regulators, banks are beginning to change the way they invest and are paving the way for sustainable and responsible investing.

Indonesia is also currently promoting the adoption of EVs, including two-wheelers such as electric scooters and motorcycles as well as four-wheelers such as electric cars and buses. The government provides subsidies for the purchase of 200,000 new EVs and the conversion of 50,000 conventional two-wheelers to electric ones. Subsidies will also be given for the purchase of 35,900 electric cars and 138 electric buses. The government's efforts to promote EVs in the country have created an opportunity for a private company to expand its business into e-bikes. The director of the company explained that the cost of renting e-bikes is cheaper than traditional two-wheeled motorcycles, as the cost structure for EVs in Indonesia is quite low. The director added that a long list of manufacturers moved to Indonesia to build and invest in EV infrastructure in the country. The government is also investing heavily in EVs by offering various incentives such as value added tax incentives for purchasing electric cars or buses, which increases investor confidence in the sector (Deputy Cabinet Secretary 2023). However, strong market demand and a complete charging infrastructure are also needed; otherwise, the expansion of EVs in the region is unlikely.

ESG Highlight

How Companies Can Avoid Greenwashing

Greenwashing, or the practice of making false or misleading claims about the environmental benefits of a product or service, is a major problem for ESG, as it can mislead investors and consumers into believing that a company is more sustainable than it actually is. A large Indonesian property developer is committed to incorporating sustainability practices and avoiding greenwashing.

To mitigate the risk of greenwashing, this company ensures that it does not make commitments before securing the necessary agreements. For example, the company has an internal target of reducing carbon emissions by 35%. It first secured an agreement with its energy supplier to provide the necessary green electricity before launching a program to reduce carbon emissions by 35%. This ensures that the company's targets are supported by legally binding contracts and that it does not overpromise or overshoot.

Additionally, the company has a rigorous internal process for validating data. A comprehensive ESG system has been implemented across all projects, with sustainability champions in each division reviewing the data. The data is then reviewed by another team before it is submitted to higher management for final review. Furthermore, the company is also careful with promotions and marketing materials to avoid greenwashing. The company takes extra care when making statements or commitments about the sustainability aspect of a project. There is a team that reviews marketing materials before they are published to ensure that the company is not promising something that it is unable to deliver.

2.3.4 Lao People's Democratic Republic

LAO PDR ESG FACTBOX

General Information	Area: Capital: Population (2022): Major languages: GDP per capita (PPP, current international dollar) (2022): Ease of Doing Business rank (2020):	236,800 km^2 Vientiane 7.5 million Lao, Thai 9,384 154
ESG Profile	GHG emissions (total) (2020): CO_2 emissions (per capita) (2020): Energy consumption (per capita) (2021): Electricity from renewables (2021): Top emitting sectors: Nationally determined contributions:	30,491 $ktCO_2e$ 2.6 tCO_2 18,847 kWh 72.95% Agriculture, forestry, and other land use Reduce GHG emissions 60% by 2030
Notable ESG Regulations	– National Green Growth Strategy 2030 – Environmental Protection Law 2012 – National Plastic Action Plan	

– National Biodiversity Strategy and Action Plan
– Regulation on Environment Impact Assessments
– Law on Securities 2019

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Lao PDR has made significant strides in recent years towards adopting sustainable development practices and incorporating ESG principles into its business operations. The country has announced an ambitious target of achieving net-zero emissions by 2050 through various national actions to address and adapt to climate change (UN 2021). The Lao Government established policies and regulations to promote sustainable agriculture, protect its natural resources, and diversify energy sources with an emphasis on renewable energy sources. For instance, the government has the goal of increasing the proportion of renewable energy (excluding hydropower) from 2% to 11%, as proposed in its five-year plan for 2021–2025. However, enforcement of these regulations remains a challenge, particularly in remote and rural areas where resources are limited. Moving forward, it will be important for the government to continue strengthening its regulatory framework, partnering with stakeholders to support sub-national level governments to increase public awareness and participation in sustainability initiatives to achieve its vision of a green and sustainable future for Lao PDR.

Environmental

Lao PDR has implemented a range of initiatives aimed at environmental protection. On top of building renewable energy capacity, the Lao Government is also committed to increasing forest cover to 70% of total land area, pushing for the use of renewable and clean energy through a 30% share for EVs and a 10% share for biofuel and improving water management practices (UN 2021). The commitment to increasing forest cover also allows Lao PDR to play a more prominent role in preserving wildlife sanctuaries, such as contributing to global tiger conservation efforts. The Lao Government is developing a National Plastics Action Plan in collaboration with the World Bank and the EU-Switch-Asia SCP Facility after acknowledging Lao cities are severely polluted by plastic waste, directly affecting the livelihood and health of the Lao people (World Bank 2022b). The Lao Government also seeks to increase EVs' share of total vehicles to 1% by 2025 to over 30% by 2030. Relevant infrastructure such as charging stations is also available in the Lao PDR and at least 50 charging stations will be installed by 2025 to meet the growing demands of EVs on the street (KPL Lao News Agency 2022).

Social

Lao PDR has also taken steps to improve the social aspect of ESG through policies and regulations. The government gradually increased the minimum monthly wage for private sector employees from LAK 1.1 million (approximately USD 62) to LAK 1.3 million (approximately USD 73) in two phases over the course of 11 months. The minimum wage was updated to LAK 1.2 million (approximately USD 68) in the first phase on August 1, 2022, and then to LAK 1.3 million (approximately USD 73) in the second phase on May 1, 2023 (Vilivong 2022). The new regulation also stipulates that employers must pay an additional 15% of the minimum wage to employees working in dangerous or hazardous conditions as defined by labor laws and regulations (Sanpibul 2018). To advance women's rights and gender equality, the Lao Government also endorsed the Second National Plan of Action on the Prevention and Elimination of Violence Against Women and Violence Against Children and the Fourth National Plan of Action on Gender Equality developed by the National Commission for the Advancement of Women, Mothers and Children with support from UNFPA, ILO, UN Women, and CARE International. Both of these national plans of action have been integrated into national policy frameworks, and workshops have been conducted to support governments at the sub-national level to align with the efforts of the central government (UNFPA 2021).

Governance

The IFC has collaborated with the public and private sectors of Lao PDR for over two decades to increase economic development. In particular, the IFC has been promoting the CG framework in Lao PDR to enhance the competitiveness of local businesses, foster market stability, and attract foreign investment. However, challenges remain for local businesses to execute good CG practices in their operations, such as the high standards listed in the CG code and the short transition period to implement CG practices (IFC 2021). An OECD report in 2019 pointed out that financial and non-financial disclosures by Lao businesses remain weak and that online access to company reports in the English language is limited (OECD 2019). The IFC iterated that adopting the CG guidelines and good CG practices can guide enterprises in Lao PDR to bolster their financial and non-financial disclosures, improve reporting practices online and in English, raise awareness for CG policies among market participants and more (IFC 2021). Overall, these efforts demonstrate the Lao Government's commitment to sustainable development and ESG principles, which are essential for the country's long-term prosperity and well-being.

Notable ESG Practices

Interviews with respondents from Lao PDR as well as those who work closely with stakeholders in Lao PDR spoke about their experience working with the government on

ESG-related issues.

An interviewee from a private consulting firm operating in Lao PDR spoke about the changing landscape of ESG practices in the country. One of the main push factors encouraging companies in Lao PDR to comply with ESG regulations is international financing requirements. While the default compliance standard is the IFC performance standards, different funders may have different compliance frameworks that fund recipients should work towards. For instance, projects funded by the ADB may have ADB policy statements as their overarching framework instead of IFC performance standards.

Additionally, market expectations and demands are also driving change in Lao PDR. As the global market trend is shifting towards sustainability, companies need to display strong ESG principles in their business operations to attract attention and gain value to make them competitive in the global market. The interviewee from the consulting firm also revealed that companies found investing in conventional portfolios or projects may suffer from reputational risks. The interviewee quoted an example of starting a significant coal project in the south of Lao PDR with clients that was eventually canceled due to the global outlook for coal despite the size of the project. The reputational risk for the client was too high because coal has been dubbed as "dirty" energy and therefore using it to generate power no longer aligns with market expectations or societal values.

A private sector employee shared her experience implementing ESG practices in Lao PDR. The interviewee acknowledged that being in the automotive and transportation industry makes it difficult to be environmentally friendly. Therefore, her company has been attempting to partner with electric car companies to offer sustainable options for their clients. Her company worked closely with the Lao Government on assessing the current status of EV readiness in Lao PDR and discussing the next steps to promote the use of EVs. The company also regularly organizes forums and events to engage stakeholders and governments on EVs. Moreover, the company also helped to build important EV infrastructure such as charging stations in Lao PDR. However, the interviewee also mentioned that operational concerns such as little to no availability of EV charging stations outside of the city and unclear policies for EV battery disposal have made them hesitant to introduce EVs in their business operations until the government has addressed these issues.

ESG Highlight

Poultry Subscription Service Empowering Small Farmers

By introducing a transformative poultry subscription service in Lao PDR, this company aims to promote sustainable agricultural practices while uplifting small-scale farmers and protecting the environment.

The visionary company is dedicated to empowering local farmers by enhancing their agricultural competitiveness through an innovative business model that fosters sustainable growth. Farmers are provided with poultry livestock and guaranteed repurchase, relieving them of the financial burden of the initial investment. Moreover, comprehensive services like quarantine and diagnostic support are offered to further increase their chances of success, without incurring additional costs.

Given the challenges that climate change poses for traditional agriculture, the adoption of ESG practices becomes paramount for the survival and prosperity of farmers. Acknowledging this crucial need, the board of directors, all holders of the ESG Private Professional Certificate, actively participate in the company's ESG decision-making. Their equity investment partnership with the ADB further enriches their understanding, with their representatives actively engaging in the bank's annual general meeting to stay updated on the latest ESG issues and progress.

2.3.5 Malaysia

MALAYSIA ESG FACTBOX

General Information	Area:	330,345 km^2
	Capital:	Kuala Lumpur
	Population (2022):	33.9 million
	Major languages:	Malay, Mandarin, Tamil, English
	GDP per capita (PPP, current international dollar) (2022):	33,434
	Ease of Doing Business rank (2020):	12
ESG Profile	GHG emissions (total) (2020):	302,089 $ktCO_2e$
	CO_2 emissions (per capita) (2020):	7.4 tCO_2
	Energy consumption (per capita) (2022):	39,587 kWh
	Electricity from renewables (2022):	19.04%
	Top emitting sectors:	Energy, manufacturing, construction, and transport
	Nationally determined contributions:	Reduce GHG emissions by 45% relative to GDP by 2030
	Conventional bonds (USD) (2022):	472 billion
	Sustainable bonds (USD) (2022):	8,450 million
Notable ESG Regulations	– CCPT – Malaysia Renewable Energy Roadmap 2022–2035 – Green Technology Tax Incentive – SRI *Sukuk* and Bond Grant Scheme – Whistleblowers Protection Act 2010 – Minimum Wage Order	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Malaysia's ESG landscape has grown rapidly over the past few years as Malaysia aspires to achieve carbon neutrality by 2050 and reduce GHG emissions to 45% relative to GDP by 2030. To achieve these goals, the government is working hard to develop a more sustainable economy and has made sustainability a key priority in the 12th Malaysia Plan (2021–2025). The plan outlines measures related to green economic development, management of carbon emissions, waste and water management, renewable energy, and sustainable cities. Other regulatory authorities in Malaysia such as Bank Negara Malaysia (BNM), Bursa Malaysia, and Securities Commission Malaysia have also issued policies and regulations to encourage companies and financial institutions to adopt ESG practices.

According to a 2022 report by PricewaterhouseCoopers (PwC), 94% of the top 50 listed companies in Malaysia have ESG strategies in place. It can be seen that ESG awareness among publicly-listed companies in Malaysia is quite high. However, more efforts are needed to spread awareness regarding the importance of ESG practices to MSMEs.

Environmental

Malaysia has implemented a number of policies and regulations to protect the environment and mitigate the risks of climate change. The Climate Change and Principle-Based Taxonomy (CCPT), Value-Based Intermediation Financing and Investment Impact Assessment Framework (VBIAF), and Climate Risk Management and Scenario Analysis (CRMSA) are initiatives by BNM to address climate change. These initiatives complement each other and ensure that all sectors, and especially the financial sector, can play a role in reducing the impact of climate change. Furthermore, the Ministry of Environment and Water (KASA) has implemented the Low Carbon Mobility Development Plan (2021–2030) to reduce GHG emissions in the transportation and energy sectors by encouraging the usage of EVs and low carbon transportation. This plan also seeks to reduce GHG emissions by 165 million tons of carbon dioxide and save MYR 150 billion in fuel expenditure over 10 years. In December 2022, Bursa Malaysia launched Malaysia's first voluntary carbon market called Bursa Carbon Exchange (BCX). It is the first carbon exchange in the world that complies with Shariah law, expanding the range of ESG and Shariah-compliant products available. BCX is a platform that allows companies to trade carbon credits from climate-friendly projects and solutions, which would help offset their carbon emissions and meet their climate goals.

Social

The 12th Malaysia Plan and Malaysia Shared Prosperity Vision 2030 outlined a few strategies to smooth the transition towards a sustainable economy. The government is dedicated to training talented people who are ready for the future by improving access to education and ensuring quality education for students. To address wealth and income disparities, the government is promoting equitable compensation for employees. In 2020, employees' compensation share of GDP was 37%; that compensation share is supposed to increase to 40% by 2025 through the PLWS, profit and wage link indicators, and trade union memberships (PwC 2022). Malaysia also seeks to address poverty by empowering the Bottom 40% (B40) and Middle 50% (M50) of households through various initiatives, such as providing quality affordable housing and improving access to health services as well as access to digital platforms and the gig economy. Additionally, the government has set aside MYR 100 million (approximately USD 23 million) in matching grants for non-governmental organizations (NGOs) and social enterprises to help vulnerable groups in the areas of education, income generation, and mental health. MYR 80 million (approximately USD 18.4 million) is also allocated towards a social protection scheme under the Employees Provident Fund (EPF) and Social Security Organization (SOCSO) called Kasih Suri, which aims to protect housewives and widows in the event of disability, illness, or old age (Aziz 2022).

Governance

Sustainability reporting has been mandated for all publicly listed companies in Malaysia by Bursa Malaysia since 2016. Companies are required to disclose everything from material sustainability matters, to the risks and opportunities caused by the economic, environmental, and social impacts of their operations and activities. A Sustainability Reporting Guide has also been published by Bursa Malaysia to assist companies in disclosing their sustainability efforts. The guide provides companies with a framework for identifying, prioritizing, and managing their material sustainability matters to improve sustainability performance and create long-term value for stakeholders. Furthermore, Securities Commission Malaysia published the Malaysia Code of Corporate Governance (MGCC) to encourage good governance policies and practices. In the latest 2021 version, MGCC requires board leadership to integrate sustainability considerations in corporate strategy and implement proactive measures to address material ESG risks and opportunities. The government has also launched Principles of Good Governance (PGG) for Government-Linked Investment Companies (GLIC) as the sole reference for the governance baseline and sustainability practices of all GLICs. PGG recommends creating a governance structure to oversee board memberships and ESG elements in future investment strategies.

Notable ESG practices

A private sector interviewee recognizes BNM's CCPT as a successful approach, considering its qualitative evaluation of describing climate-related activities. CCPT requires companies to undergo a qualitative exercise to assess and classify economic activities based on their contribution to climate mitigation and adaptation goals. This forces companies to think about where they stand and what steps they need to take to improve their sustainability. Rather than simply requiring companies to collect data, CCPT's approach encourages them to think critically about why they need the data in the first place.

Malaysia has a few initiatives to ensure that MSMEs are able to transition to a low carbon economy. BNM has established a Low Carbon Transition Facility (LCTF), a financing scheme to support MSMEs in adopting sustainable and low carbon practices. LCTF provides financing for MSMEs to obtain sustainability certification, increase the use of sustainable materials, and improve energy efficiency. This financing scheme is on a matching basis where MYR 1 billion (approximately USD 210 million) allocated is from BNM and another MYR 1 billion will be provided from participating financial institutions. Under Budget 2023, SME Bank launched Sustainability Incentive Scheme, a MYR 10 million (approximately USD 2.1 million) structured intervention grant program to facilitate MSMEs in integrating ESG practices in their business operations. Financial assistance is important to ensure that MSMEs are not left behind in Malaysia's transition towards a sustainable economy.

A public sector employee shared her experience working with a Malaysian start-up that provides technology solutions for sustainability disclosure. The start-up suggested that a carrot-and-stick approach is not an effective way to assist MSMEs in their transition. Instead of targeting MSMEs, the start-up targets multinational corporations (MNCs) as MNCs have the power to compel the transformation of their value chain. The start-up also works with banks to provide MSMEs with access to favorable interest rates for loans. This approach provides MSMEs with an incentive to change, as they will be cut off from the supply chain if they do not comply. It also does not add to MSMEs' costs, as the technology is paid for by the MNCs. Additionally, MSMEs can access cheaper loans, as banks also want to reduce carbon emissions. This is an interesting approach as it provides a way to help MSMEs transform without adding to their cost or burden. As capacity building is insufficient for MSMEs to transform, it needs to be complemented with access to financing and resources.

ESG Highlight

Leading the Way in ESG and Clean Energy

For a clean energy provider that is involved in engineering, procurement, construction, and commissioning of solar photovoltaic systems and power plants, ESG practices and principles are aligned with the company's core values and principles. The company has established a robust sustainability governance structure that includes the board of directors, management, and a dedicated strategy development team. This structure is specifically designed to oversee the implementation of ESG and sustainable initiatives across the entire group. The company also believes that it is vital to ensure that all employees are actively participating in the company's ESG initiatives to integrate them into day-to-day business activities.

Moreover, the company proactively utilizes government body toolkits to acquire essential knowledge and skills for effective ESG implementation and compliance. As part of its ESG initiatives, the company demonstrates responsible waste management practices by recycling the waste it generates. In September 2021, the company responsibly sold its e-waste to a specialized disposal company. Additionally, the company adheres to the "3R" strategy (reduce, reuse, recycle), implementing measures like double-sided printing, reusing printed paper, and conducting regular inspections to monitor paper consumption. By adopting ESG principles, the company recognizes the potential for significant long-term value creation and sustainable growth.

2.3.6 Republic of the Union of Myanmar

MYANMAR ESG FACTBOX

General Information	Area:	676,590 km
	Capital:	Naypyitaw
	Population (2022):	54.2 million
	Major languages:	Burmese
	GDP per capita (PPP, current international dollar) (2022):	4,870
	Ease of Doing Business rank (2020):	165
ESG Profile	GHG emissions (total) (2020):	128,949 $ktCO_2e$
	CO_2 emissions (per capita) (2020):	0.6 tCO_2
	Energy consumption (per capita) (2021):	3,065 kWh
	Electricity from renewables (2021):	41.82%
	Top emitting sectors:	Agriculture, forestry, and other land use
	Nationally determined contributions:	Reduce GHG emissions by 244.5 million tCO_2e by 2030.
Notable ESG Regulations	– MSDP 2018–2030 – MCCS 2018–2030 – Myanmar Energy Master Plan – New Environmental Policy 2019	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Prior to the outbreak of civil unrest in 2021, ESG policies were becoming increasingly important in Myanmar. In recent years, there have been a number of initiatives to promote ESG in Myanmar. In 2018, the government launched the Myanmar Sustainable Development Strategy, which outlines a long-term vision for environmental protection and social development. In 2019, the government of Myanmar and UN-Habitat published the Myanmar Climate Change Strategy (MCCS) a roadmap for the country to strategically address climate-related risks and seize opportunities. It is aligned with the Myanmar Climate Change Policy (MCCP) and upholds the principles of climate resilience and inclusive and resource-efficient development.

However, it is important to note that the country is currently volatile due to ongoing civil unrest. Investors who are considering investment in Myanmar need to carefully assess the risks and opportunities before making a decision as it is unclear what the future holds for the country.

Environmental

The New Environmental Policy was devised in 2019 to address the incessant risks associated with climate change. The policy's main objective is to protect the country's natural resources and environmental assets from threats such as deforestation, illegal trade, and unregulated extraction. This policy was introduced at the right time, as Myanmar's ecosystem was under significant pressure from the country's development and economic transformation. The World Bank reported that the country's forest cover had declined by an average of 1.2% per year between 1990 and 2015 as it continued to rely on natural resource exploitation for economic growth. Moreover, the country is also suffering from poor air quality, overfishing, weak regulation, and poor waste management practices (World Bank 2019). Due to the ongoing domestic situation, efforts to address these challenges have been de-prioritized.

Social

The MSDP 2018–2030 aims to achieve a balance between economic and social development, environmental protection, and sustainability. The government has committed to mitigating poverty throughout the country. However, recent conflicts have impeded Myanmar's steady progress in sustaining high GDP growth, reducing poverty, and increasing employment (UNDP 2023). Since 2021, no new social protection policies have been announced.

Governance

Myanmar's CG practices fall short of those of its ASEAN counterparts. This is evident in the country's low ranking on the World Bank's Ease of Doing Business Index. Previous efforts to improve the country’s business environment include introducing the Companies Law 2018, which aims to improve CG standards. The Myanmar Corporate Governance Scorecard 2018 found that the 24 companies surveyed generally fell short of best practices, but that listed companies outperformed other public and private companies (IFC 2019). Myanmar has yet to develop its own code of conduct, which could significantly improve its CG practices.

Notable ESG Practices

A private sector interviewee noted that ESG practices are driven by practicality. Renewable energy such as solar and hydropower are widely used due to the lack of supply and infrastructure, particularly in more remote areas. The businessman stated that more and more businesses are turning away from petrol-based generators and adopting solar panels due to rising fuel costs. On top of that, the government has also introduced the “60/20/20 business model,” a partnership between the government, local communities, and solar energy-developing companies to finance renewable energy generation and make it more affordable. Nevertheless, public awareness of climate risks, and social and environmental issues remains low.

ESG Highlight

Achieving Carbon Neutrality through Solar and EVs

A South Korean apparel company, operating in Myanmar, has exemplified its unwavering dedication to carbon neutrality by successfully implementing a state-of-the-art solar panel system at its factory. With a remarkable achievement, the solar panels now account for an impressive 70% of the factory’s total electricity consumption, leading to substantial reductions in both electricity costs and GHG emissions.

Taking its environmental responsibilities further, the company has also embraced forward-thinking policies concerning the utilization of EVs, taking a more proactive stance on ESG activities. Ensuring the efficacy and adherence to international standards, these ESG initiatives are diligently overseen by an internal compliance team.

Despite the initial challenges posed by the relatively higher cost of adopting ESG measures, the company remains resolute in its commitment. This steadfast dedication is influenced by mounting pressure from the international market, where environmentally responsible practices are increasingly valued. Embracing ESG principles also brings about undeniable benefits, including greater competitiveness and robust risk management strategies.

By setting an impressive precedent through its solar panel initiative and the adoption of EVs, the company not only demonstrates its dedication to carbon neutrality but also inspires positive change in the ASEAN business landscape.

2.3.7 Republic of the Philippines

PHILIPPINES ESG FACTBOX

General Information	Area: Capital: Population (2022): Major languages: GDP per capita (PPP, current international dollar) (2022): Ease of Doing Business rank (2020):	300,000 km^2 Manila 115.6 million Tagalog, English 10,133 95
ESG Profile	GHG emissions (total) (2020): CO_2 emissions (per capita) (2020): Energy consumption (per capita) (2022): Electricity from renewables (2022): Top emitting sectors: Nationally determined contributions: Conventional bonds (USD) (2022): Sustainable bonds (USD) (2022):	224,972 $ktCO_2e$ 1.2 tCO_2 5,067 kWh 22.58% Energy Reduce GHG emissions by 75% by 2030 (3% unconditional and 72% conditional) 272 billion 6,935 million
Notable ESG Regulations	– Climate Change Act of 2009 – Renewable Energy Act of 2008 – Philippine Green Jobs Act of 2016 – National Climate Change Action Plan 2011–2028 – Electric Vehicle Industry Development Act – Migrant Workers and Overseas Filipinos Act of 1995	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

The Philippines' ESG landscape has been growing steadily since the introduction of the National Climate Change Action Plan in 2011. The country's geographical location makes it especially vulnerable to climate risks such as tropical cyclones, flooding, and landslides (ADB 2021). In this context, the government has announced an ambitious target of achieving a cumulative GHG emissions reduction and avoidance from the business as usual (BAU) scenario of 75% by 2023. The government is keen on promoting the country's resilience through climate change adaptation, international cooperation, and market and non-market mechanisms. The circular economy, education, and public awareness are also part of the agenda. Despite the challenges of promoting sustainable practices, the country's green finance sector continues to develop. Domestic banks had issued a total of USD 1 trillion in green bonds by November 2020 (Oxford Business Group 2022).

Environmental

The Philippine Government was well aware of the threats of climate change and passed the Climate Change Act in 2009. The enactment of this law has led to the adoption of the National Framework Strategy on Climate Change with the goal of building the adaptive capacity of communities, increasing the resilience of natural ecosystems, and optimizing mitigation opportunities for sustainable development. The government is also currently offering various fiscal and non-fiscal incentives to reduce GHG emissions through the establishment of green jobs, the adoption of renewable energy, and the development of the EV industry. Furthermore, local and foreign-made vehicles also need to comply with emission standards to operate in the Philippines. Last but not least, the introduction of Republic Act No. 11697, also known as the Electric Vehicle Industry Development Act (EVIDA), is a stepping stone for the country's electric vehicle industry. The law establishes the Comprehensive Roadmap for the Electric Vehicle Industry (CREVI), which aims to accelerate the development, commercialization, and utilization of EVs in the country.

Social

The Philippines has one of the largest overseas workforces in the world, ranking in the top four in remittance-recipient countries with annual remittances amounting to USD 38 billion, and is considered one of the leading countries in migration management (Lionell 2023). The Employers Confederation of the Philippines (ECOP) was established in 1975 to promote labor and social policies in pursuit of national development. Then the government enacted the Migrant Workers and Overseas Filipinos Act of 1995 to provide comprehensive measures for the protection of Filipino migrant workers. The Philippines also headed the ASEAN Declaration on the Protection and Promotion of the Rights of Migrant Workers which was signed in 2007.

In August 2021, the ECOP launched the Diversity and Inclusion Committee to promote workplace gender equality and fair treatment of workers. Despite these efforts, the country struggles with execution and enforcement. The COVID-19 pandemic revealed a flaw in the Philippines' social protection coverage. However, the country is making progress by upgrading its digital infrastructure to address this gap.

Governance

In 2019, the Securities and Exchange Commission (SEC) of the Philippines issued the Sustainability Reporting Guidelines for Publicly Listed Companies, which required PLCs to submit a sustainability report. To combat greenwashing, the SEC has issued an additional rule where investment companies will need to adopt one or more ESG factors as their investment focus in order to qualify as an socially responsible investment (SRI) in January 2023. In addition, BSP is currently developing the country's ESG Taxonomy to identify greenwashing risks and promote the country's sustainable finance sector. Bangko Sentral ng Pilipinas (BSP) also updated its Sustainable Finance Framework in December 2021 to further support the Philippines' sustainability commitments and raise larger volumes of sustainable financing instruments.

Notable ESG Practices

Achieving the country's SDGs has become a priority for the Philippine Economic Zone Authority (PEZA). The investment promotion agency champions labor rights, and environmental and safety compliance to promote operational resilience within the economic zones. PEZA is currently working on amending the Special Economic Zone Act of 1995 to reflect its current commitment to ESG practices. In 2022, PEZA collaborated with the Swiss Embassy and GRI to promote sustainability reporting in the Philippines. The Deputy Director General highlighted three key actions: capacity building, public education, and policy inclusion. This initiative will not only encourage better ESG practices among companies in the Philippines but also attract higher volumes of foreign investment in the country.

The interviews with multiple NGOs in the Philippines offer a different perspective on ESG practices in the country. The interviews reveal a decline in collaboration between NGOs and the private sector in performing CSR activities. Sustainability and ESG practices are gaining traction in the private sector. Larger corporations in the Philippines have started doing their own research and even gone as far as setting up an internal CSR division to plan and execute their yearly community outreach activities. Similarly, politicians are also becoming more familiar with ESG and sustainability. However, there are challenges in adopting ESG policies and regulations within the local government.

ESG Highlight

Sustainable Tourism and Environmental Conservation on Danjugan Island

Operating on the island of Danjugan in Southern Negros, the Philippines, a dedicated local Philippine NGO is passionately committed to preserving and safeguarding this precious gem from numerous threats, particularly overfishing. Embracing an ecotourism approach, this destination has adopted a low-impact, low-volume, high-quality, and high-value tourism model, ensuring the protection of its sandy beaches and pristine waters, which serve as vital habitats for wildlife and marine species.

One of the core missions of this NGO is to promote and instill the values of sustainability practices and environmental conservation among the island's visitors. Over the years, Danjugan has been open to educational camps and research activities, laying the foundation for its ecotourism initiatives. These educational camps are not only available for individuals but also for corporate partnerships, providing a unique opportunity for companies to engage in environmentally conscious activities while deepening their understanding of sustainability principles.

It is worth noting that the NGO's services are open to all companies, presenting an invaluable opportunity for foreign companies seeking to invest in the ASEAN region. Through engaging with this NGO, these companies can gain profound insights into ESG practices and strategies, tailored to the unique local context of the Philippines. This Philippine NGO operating on Danjugan Island stands as an example of environmental stewardship and sustainable tourism practices within the ASEAN countries.

2.3.8 Republic of Singapore

SINGAPORE ESG FACTBOX

General Information	Area:	710 km^2
	Capital:	Singapore
	Population (2022):	5.6 million
	Major languages:	English, Mandarin, Malay, Tamil
	GDP per capita (PPP, current international dollar) (2022):	127,565
	Ease of Doing Business rank (2020):	2
ESG Profile	GHG emissions (total) (2020):	64,267 ktCO_2e
	CO_2 emissions (per capita) (2020):	7.7 tCO_2
	Energy consumption (per capita) (2022):	147,085 kWh
	Electricity from renewables (2022):	2.41%
	Top emitting sectors:	Energy, manufacturing, construction, and transport
	Nationally determined contributions:	Reduce GHG emissions to 60 MtCO_2e by 2030
	Conventional bonds (USD) (2022):	612 billion
	Sustainable bonds (USD) (2022):	13,826 million
Notable ESG Regulations	– Energy Conservation Act 2012 – Carbon Pricing Act 2018 – Resource Sustainability Act 2019 – Prevention of Corruption Act 1960 – Environmental Risk Management (ERM) Guidelines – Singapore Green Bond Framework (SGBF)	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Singapore is known for its forward-thinking sustainability policies and regulations. The country has taken steps to ensure that sustainability is a priority in all aspects of life, from business to daily living. The government has set the goal of reducing the country's carbon emissions intensity by 36% by 2030 compared to 2005 levels. To achieve this goal, Singapore has implemented carbon taxes, established a carbon trading market, and invested in research and development of green technologies to ensure clean, affordable, and reliable energy to power Singapore's needs.

Environmental

Singapore has established several laws and policies to ensure sustainable practices are followed by all sectors. The

Singapore Green Plan 2030 is a national movement that aims to advance Singapore's national agenda on sustainable development. The Green Plan comprises five pillars to strengthen Singapore's sustainability commitments-city in nature, energy reset, sustainable living, green economy, and resilient future. Singapore also launched the Climate Action Plan in July 2016 which outlined the country's climate adaptation and mitigation strategies, such as implementing coastal and infrastructure protection measures, reducing carbon emissions from power generation, and developing new low carbon technologies. Moreover, Singapore is the first country in ASEAN to introduce a carbon tax (Ministry of Sustainability and Environment 2020). The carbon tax introduced in 2019 is set to increase progressively over time, starting at SGD 5 per ton from 2019 to 2023 and increasing to SGD 25 per ton in 2024 and 2025 with a plan to reach SGD 50 to SGD 80 per ton by 2030. Moreover, Singapore is leading the region as a carbon services hub that offers a range of services related to carbon management and emissions reduction. The growing demand for such services is estimated to bring a gross added value of USD 1.8–5.6 billion (National Climate Change Secretariat Singapore n.d.).

Social

There is no legally mandated minimum wage in Singapore for either local or foreign workers. However, Singapore adopts a progressive wage model (PWM) that prescribes minimum wages for specific economic sectors including the cleaning, security, and retail sectors. Currently seven sectors are governed by the PWM, which will expand to cover the food services and waste management sectors in 2023. The PWM is applicable to citizens and permanent residents of Singapore. To ensure that local workers are employed meaningfully, Singapore implemented a LQS requirement where employers need to pay local workers at least SGD 1,400 before they can hire any foreign workers.

Governance

To strengthen CG processes and practices, government agencies in Singapore implemented whistle-blowing platforms for individuals to report any potential improprieties. These include Enterprise Singapore, the Competition & Consumer Commission, the Ministry of National Development, and more. The Singapore Exchange (SGX) mandated that issuers in the financial, energy, agriculture, food, and forestry industries must provide climate reporting on a "comply or explain" basis in their sustainability reports beginning in the financial year (FY) of 2022, with mandatory reporting effective FY2023. Additionally, issuers from the materials, buildings, and transportation sectors are subject to mandatory climate reporting beginning FY2024. Other than mandatory climate reporting, SGX also mandated that issuers establish a board diversity policy that addresses gender, skill, and experience along with other relevant aspects of diversity to help companies strengthen board diversity. The policy is expected to be included in annual reports that list specifics like diversity targets, plans, timelines, and progress listed. Similarly, the Monetary Authority of Singapore (MAS) also issued an updated version of practice on board diversity policies in the Code of Corporate Governance.

Notable ESG Practices

Interviews with Singaporean experts as well as those who work closely with stakeholders in Singapore highlighted several topics when sharing their views about ESG practices in the country.

Singapore is ahead in terms of ESG data platforms compared to other ASEAN Member States. Under Project Greenprint, the MAS, and SGX launched a digital disclosure portal called ESGenome that allows companies to report ESG data in a structured and efficient manner. This data platform also allows investors to access ESG data in a consistent and comparable format. MAS also partnered with Singapore-based fintech, Hashstacs Pte Ltd (STACS) to develop ESGpedia, a data registry platform that collects ESG certifications and data from various sectors, facilitating the investment process and the mobilization of ESG capital.

A public sector employee shared that the financial sector in Singapore is calling for more regulations and guidance regarding ESG as the lack of clear directions or instructions may open them up to reputational risks. An example of providing detailed guidance for the sector would be regulators planning to set out a roadmap for mandatory disclosure requirements by financial institutions based on the International Sustainability Standards Board (ISSB). Along with establishing a framework, providing funding is equally important to help businesses make the green transition. A green finance academic center complimented the Singaporean Government and relevant regulatory bodies in providing support and schemes to help investors engage in sustainable finance.

A private sector employee from a multinational technology company said that clear guidelines and policies from the Singaporean Government helped them better strategize operations and transitions. While the Singaporean Government plans to phase out internal combustion engine vehicles by 2040, this company stated an ambitious target to turn its fleet in the country into hybrid or EVs by 2030, a decade ahead of the national target. The company said that with a clear roadmap set out by the Singaporean Government, there would be sufficient time and infrastructure to support them in accelerating their green transition.

ESG Highlight

Building a Greener Future in Singapore

A Singapore-based company specializing in innovative urban space solutions, offers a wide range of services encompassing sustainable urban renewal, senior living, urban living, retail, and large-scale integrated developments. This company is committed to developing green properties, optimizing resource efficiency, and utilizing renewable energy sources.

To minimize its environmental impact, the company aims to reduce Scope 1 and 2 GHG emissions by 100% and Scope 3 GHG emissions* from purchased goods and services by 20% per square meter by 2030 with 2020 as its base year. The company also intends to increase the percentage of green materials used to 50% by 2030. Furthermore, the company is dedicated to combating plastic pollution and strives to avoid single-use plastics in its business operations. The company has also implemented the Integrated Management System which combines the ISO 9001 (quality management system), the ISO 14001 (environmental management system), and the ISO 45001 (occupational health and safety management system), to enhance its ESG practices.

Adopting ESG principles is seen as a competitive advantage and despite the projected increase of capital expenditure in the short term, the company anticipates positive returns on investment and internal return rates in the mid to long-term.

* Scope 2 emissions refer to indirect emissions from the generation of purchased electricity, steam, heat, and cooling. Scope 3 emissions refer to all other indirect emissions that are associated with the organization's activities.

2.3.9 Kingdom of Thailand

THAILAND ESG FACTBOX

General Information	Area:	513,120 km^2
	Capital:	Bangkok
	Population (2022):	71.7 million
	Major languages:	Thai
	GDP per capita (PPP, current international dollar) (2022):	20,672
	Ease of Doing Business rank (2020):	21
ESG Profile	GHG emissions (total) (2020):	433,774 $ktCO_2e$
	CO_2 emissions (per capita) (2020):	3.7 tCO_2
	Energy consumption (per capita) (2022):	19,617 kWh
	Electricity from renewables (2022):	15.26%
	Top emitting sectors:	Energy
	Nationally determined contributions:	Reduce GHG emissions by 30% by 2030, carbon neutrality by 2050, net-zero by 2065
	Conventional bonds (USD) (2022):	476 billion
	Sustainable bonds (USD) (2022):	8,113 million

Notable ESG Regulations	– Climate Change Master Plan 2015–2050 – Thailand Integrated Energy Blueprint (TIEB) – First NAP – EV Tax Incentive Package – Minimum Wage Rate – Social Security Act

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Over the past few years, Thailand has made significant progress in terms of ESG and Sustainable Development Goals (SDGs). Based on the 2022 SDG Index ranking, Thailand ranks 44 out of 163 countries worldwide and number one in the East and South Asia region (Sachs et al. 2022). This shows that Thailand is on track to address a wide range of social, economic, and environmental challenges. Thailand has also pledged to achieve carbon neutrality by 2050 and net zero GHG emissions by 2065 through various policies and regulations, especially the 13th National Economic and Social Development Plan (2023–2027). The milestones in this plan include becoming a circular economy and low-carbon society, mitigating the risks and impacts of natural disasters and climate change, reducing intergenerational poverty, and implementing adequate social protection for the public. Furthermore, Thailand's regulators, particularly the SEC of Thailand and Bank of Thailand (BOT), are actively driving ESG awareness in the financial sector and nationwide. These two bodies are currently developing the Thailand Taxonomy with a focus on aligning climate mitigation strategies with local climate policy and international obligations.

Environmental

Environmental issues have always been on Thailand's national agenda in the context of combating climate change. Thailand has developed the Climate Change Master Plan (2015–2050) to achieve sustainable low-carbon growth and climate change resilience by 2050. Thailand is also drafting the Climate Change Act, a regulatory framework that allows relevant agencies to collect data for the national GHG inventory, especially those that are currently unavailable. As of 2022, the Climate Change Act is being revised and under consideration by the government (Ministry of Natural Resources and Environment 2023). The government also introduced the Bio-Circular-Green Economy Model as a strategy to promote green and inclusive growth. This model focuses on applying the concepts of bioeconomy, circular economy, and green economy to create products and services that are environmentally friendly and require fewer resources, while conserving natural and biological resources.

Social

Thailand was the first country in Asia to adopt the National Action Plan on Business and Human Rights (NAP) (2019–2022). The Thai Government realized the importance of human rights due diligence, especially in the business sector, and thus created the NAP as an implementation framework for relevant sectors to prevent, mitigate, and intervene in human rights violations. The government is in the process of developing the 2nd NAP (2023–2027) based on the feedback received on the 1st NAP (2017). Due to inflation and the high cost of living, Thailand's minimum wage rate increased by an average of 5% in 2022. The new daily minimum wages range from THB 328 (USD 8.59) to THB 354 (USD 9.27) depending on the province, translating to a monthly minimum wage range from THB 9,000 (USD 235) to THB 10,000 (USD 261)-one of the highest in ASEAN.

Governance

Thailand's SEC mandated that listed companies consolidate their annual registration statement (Form 56-1) and annual report (Form 56-2) into a new "Form 56-1 One Report." The new 56-1 One Report is expected to reduce companies' burden and improve disclosure efficiency by requiring companies to disclose information about their ESG practices. This information could include corporate ESG policies, goals, and performance metrics as well as GHG emissions and human rights commitments (SEC 2021). The above measures by the SEC should encourage companies to integrate ESG into their business operations while ensuring that investors have access to sustainability information. SEC also issued Corporate Governance Code 2017, a comprehensive set of principles and best practices that allows boards of directors to create long-term sustainable value for their companies and stakeholders. To complement the Corporate Governance Code, SEC also introduced the Investment Governance Code for Institutional Investors (I Code) which contains principles and guidance that outline responsible and effective stewardship of investments. The I Code is based on international standards and best practices, and its implementation is expected to enhance confidence in the investment management process and promote good CG. All asset managers and 77 institutional investors in Thailand have signed a declaration of intent to support this code.

Notable ESG Practices

Owing to the efforts of regulatory bodies, more and more companies are increasingly aware of the importance of ESG. A survey conducted from August to September 2022 among 106 leading companies in Thailand found that most business leaders are prioritizing ESG awareness and ESG integration in their corporate strategy (Ketsuriyonk et al. 2022). Thai companies have not only incorporated ESG strategies in their business operations but are also leading the way in ESG adoption in Southeast Asia. According to the Stock Exchange of Thailand (SET), 37 Thai companies were included in S&P Global's Sustainability Yearbook 2023 and 12 of them were awarded Gold Class, which is the highest ranking for sustainable companies in their respective industries (SET 2023). This recognition demonstrates that Thai businesses are committed to responsible practices by taking the necessary steps to protect the environment and improve the lives of their employees and stakeholders.

Similarly, regulators are seeing a positive trend whereby investors are becoming increasingly interested in ESG products. One of the factors that is contributing to this increase in demand is financial literacy since only investors who are knowledgeable about ESG products would be ready to invest in it. One public sector body in Thailand has a specific financial literacy department that is dedicated to spreading knowledge about ESG products. This department works with social media influencers on platforms such as TikTok and Facebook to educate young investors about ESG funds, green bonds, social bonds, and sustainability-linked bonds (SLB). Numerous reports have also been published in newspapers and websites to increase public awareness of ESG products and other sustainability projects.

The lack of ESG or sustainability-related data has been a challenge for investors in Thailand. A public sector interviewee noted that they are receiving a push from investors to ask publicly listed companies to disclose more ESG-related information for better analysis and decision-making by asset managers. Such data and information are also crucial to create ESG funds. This suggests that ESG data is very important to investors and that companies should therefore put more effort into disclosing credible and consistent data.

ESG Highlight

A Thai Education Company's Journey towards ESG Excellence

A Thai education development company is dedicated to enriching the mathematical and scientific learning capabilities of Thai youths while offering South-Korean level education for the Thai market through the localization of curricula and evaluations. The company's ESG initiatives primarily center around supporting underprivileged communities, but efforts to address environmental and climate concerns were also made as the company concentrates on building global environmental awareness through academic science.

To strengthen its ESG efforts, the company implemented an environmental governance policy that promotes daily sustainable practices among its employees, ranging from reducing waste and unnecessary packaging to conserving energy in office buildings. In addition to that, employees are periodically sent abroad to study best practices from developing countries. Furthermore, the company constantly stays up to date with current news, collecting highlighted examples of ESG practices showcased by other leading educational organizations and incorporating the data collected with the company's own statistics to determine the effectiveness of the company's pitched ESG campaigns.

The company stressed that its focus is not measuring returns or profits from ESG policies. Instead, the company places emphasis on the evident impacts of its initiatives. It firmly believes that ESG practices are beneficial in the long run, even if the results take time to materialize or are not immediately apparent. Its primary goal is to invest in the long-term awareness of parents and teachers, viewing this as a crucial and valuable undertaking.

2.3.10 Socialist Republic of Viet Nam

VIET NAM ESG FACTBOX

General Information	Area:	331,340 km²
	Capital:	Hanoi
	Population (2022):	98.2 million
	Major languages:	Vietnamese
	GDP per capita (PPP, current international dollar) (2022):	13,457
	Ease of Doing Business rank (2020):	70
ESG Profile	GHG emissions (total) (2020):	470,578 $ktCO_2e$
	CO_2 emissions (per capita) (2020):	3.7 tCO_2
	Energy consumption (per capita) (2022):	12,983 kWh
	Electricity from renewables (2022):	51.55%
	Top emitting sectors:	Energy, industrial processes, agriculture, forestry, and other land use
	Nationally determined contributions:	Reduce GHG emissions by 15.8% (unconditional) and 43.5% (conditional) by 2030.
	Conventional bonds (USD) (2022):	110 billion
	Sustainable bonds (USD) (2022):	625 million
Notable ESG Regulations	– National Climate Change Strategy 2050 – National Strategy on Green Growth – Eighth National Power Development Plan (PDP8) – Public-Private Partnership Law – National Strategy on Gender Equality	

Sources: World Bank, Our World in Data, UNFCCC, and ADB.

Viet Nam is rapidly turning into an attractive investment destination due to the country's stable and growing macroeconomic environment, controlled inflation, and rising middle class. In December 2021, Viet Nam managed to accumulate a total of USD 241.6 billion in foreign direct investment. Viet Nam's ESG landscape is evolving significantly, driven by the government's efforts to promote ESG adoption and growing demands from foreign investors. The Vietnamese Government has launched initiatives such as the Sustainable Development Strategy of Viet Nam, the

One Strategic Framework for Sustainable Development Cooperation, and the Viet Nam Corporate Sustainability Index. The future of ESG in Viet Nam remains optimistic as a survey by PwC found that approximately 80% of Vietnamese companies have made ESG commitments or plans for the next two to four years (PwC 2022).

Environmental

In its effort to promote the green energy transition, the Ministry of Industry and Trade successfully introduced Decision 37/2011/QD-TTg and Decision 11/2017/QD-TTg to promote the development of wind and solar energy projects in Viet Nam. Feed-in tariff (FIT) initiatives have led to unprecedented growth in renewable energy investment in Viet Nam, given the relatively high rates offered. As a result, there is an oversupply of renewable energy in the market as the current energy infrastructure is unable to support the massive increase in supply. Subsequently, renewable energy investors are unable to generate revenue from their investments and are waiting for the government to take action addressing this issue. In May 2023, the government approved the Eighth National Power Development Plan (PDP8), which calls for a significant expansion of Viet Nam's electricity grid. This expansion requires a total investment of USD 135 billion by 2030. The country also announced a JETP with International Partners Group (IPG) in December 2022, which will provide an initial USD 15 billion of public and private financing to support Viet Nam's green transition.

Social

Viet Nam is gradually working to improve its social policies, with a particular focus on social protection, gender equality, and sexual minority rights as per its Gender Affirmation Law. A review of the National Strategy on Gender Equality 2011–2020 by UN Women found that Viet Nam had met two-thirds of its targets for gender equality. Progress was made in lowering the adolescent birth rate, increasing women's enrollment in vocational education, and introducing educational targets for ethnic minority children. However, the country has failed to meet its targets in the areas of political leadership (UN Women 2021). Plan International (n.d.) reported that only 26.7% of positions in parliament and 4.2% of ministerial positions are held by women in Viet Nam. In 2021, the country adopted the National Strategy on Gender Equality to foster gender equality and women's entrepreneurship within the country.

Governance

Several governmental initiatives have been introduced to improve transparency and accountability in Viet Nam. First, the Ministry of Finance issued Circular 96/2020/TT-BTC to set out certain ESG reporting guidelines for public and listed companies in Viet Nam. The State Securities Commission of Viet Nam considers sustainability reports a tool to improve corporate awareness of risks and opportunities. However, only 19 companies in Viet Nam issued a separate sustainability report in 2022 (Viet Nam Investment Review 2023). In addition to the reporting guidelines, the government also passed the Law on Access to Information 2018 to establish and safeguard citizens' right to information. However, some questions have been raised regarding its overall effectiveness in practice. Finally, Viet Nam is also conducting an anti-corruption campaign that has decreased the informal costs of doing business, an improvement in the ease of doing business.

Notable ESG Practices

The rapid growth of the EV market in Viet Nam is driven by clear direction from the Vietnamese government in penetrating the market. The government's focus on EVs is a part of its broader commitment to reducing GHG emissions. Since 2022, the government has introduced tax incentives for EVs including electric cars, Law 03/2022/QH15 to reduce the excise rate for EVs, and Decree 10/2022/ND-CP to lower the registration fee for EVs. The market is currently dominated by homegrown company VinFast and a handful of global brands such as Mercedes-Benz, Tesla, Honda, and Peugeot.

The start-up environment is also gaining prominence in Viet Nam, particularly in the green sector. This rapid growth is driven by the growing awareness of climate change among the younger generation. Viet Nam's strategic location also makes it the obvious choice for foreign investors who are conscious of the US-China trade conflict. Viet Nam also has a comparatively stable political environment and educated human capital. However, for the green start-up environment to continue to grow, the government will need to develop stronger regulations to encourage foreign investments. A private sector employee noted that human capital development was also key to producing high-quality start-ups and climate solutions, emphasizing the need for continuous research and development, improvement of tertiary education, and more government funding to reduce the human capital gap in the country.

ESG Highlight

A Sustainable Supply Chain is the Way to Go

The global push towards sustainability has placed immense pressure on Vietnamese exporters to adopt environmentally responsible practices. In response to this trend and driven by the government's commitment to SDGs, one Vietnamese bedding company has taken significant strides towards integrating sustainability into its business processes.

This bedding manufacturer has exemplified its dedication to sustainability by introducing a green building factory, the first of its kind in Viet Nam. Under the guidance of the Sustainable Development Committee, the company actively invests in developing its talent pool through participation in ESG seminars and international collaboration on sustainability. Additionally, the company maintains rigorous sustainability reporting practices in alignment with international standards, demonstrating transparency and accountability in their endeavors.

Recognizing that sustainability hinges on the entire supply chain, the company has made it a priority to utilize materials with minimal environmental and social impact throughout the entire product lifecycle. Collaborating with its supply chain partners, the company encourages the use of certified eco-friendly materials, reinforcing its commitment to reducing ecological footprints. Thanks to its unwavering commitment to sustainability and responsible governance, the company has achieved an impressive track record of accolades over the years.

2.4 External Environment: Beyond ASEAN

The economies of ASEAN are relatively open to foreign trade and investment. In 2020–2021 ASEAN attracted approximately 12% of global foreign direct investment, while exports were equivalent to approximately 45% of ASEAN's gross domestic product. This exposure to foreign markets and investors has been a driver in the adoption of ESG practices.

In this section the main external influences on ESG practices in the member states are discussed, with a focus on the role of international supply chains and financial institutions as well as specific developments originating in Europe and the United States (US). Europe and the US are important trade and investment partners for ASEAN and have been influential in promoting ESG practices in the region.

2.4.1 Supply Chains

As ASEAN economies are well integrated into the global trade and financial system, ESG practices are often transmitted through global supply chains and international financial institutions.

In 2021, ASEAN's main source of foreign investment and its main export partners were the US, China, Japan, the EU, and Korea. Among these economic partners, the US and Europe have consumer expectations and a regulatory framework that encourage the adoption of ESG practices.

As a result, producers in ASEAN that are exporting to Europe and the US or that are part of global supply chains are required to gather data and report on their ESG practices to upstream buyers. This requirement is driven by buyers' internal policies (e.g., CSR) or specific supply chain legislation requiring due diligence with regards to labor and environmental standards. Australia, France, Germany, the United Kingdom (UK), and the US have specific legislation covering these areas. Japan has non-legally binding guidelines, while China and Korea have not yet adopted guidelines concerning supply chain transparency.

Even though the end-users and their ESG requirements vary, the standardization of supply chains means that the more stringent standards required by certain large markets, such as the EU, are often adopted throughout the entire supply chain.

2.4.2 Financial Markets and Institutions

Another area for the transmission of ESG practices is through financial institutions, including stock markets, which require the disclosure of ESG-related data to investors and lenders (both public and private). While European and US financial institutions and multilateral agencies such as the World Bank and ADB have often taken the lead in demanding ESG disclosures, the financial sector in Asia has been quick to adopt as well. This trend is observed both within ASEAN and in China, where large banks such as the Export-Import Bank of China and the Asian Infrastructure and Investment Bank (AIIB) have integrated ESG practices into their lending policies.

In this regard, an important set of international standards is being created by the Task Force on Climate-related Financial Disclosures (TCFD), which was established in 2015 by the Financial Stability Board in Basel, Switzerland. The TCFD's focus is on standardized reporting of climate impact by corporations to improve consistency and comparability.

Disclosure requirements based on the work of the TCFD have already been widely adopted globally, and many institutional investors have incorporated climate criteria into their investment decision-making process. The TCFD's 11 disclosure recommendations span four different areas: governance, strategy, risk management, and metrics and targets. Adopting ESG practices in line with the TCFD disclosure rules is a challenging process for many firms that affects their international suppliers and business partners, who must provide the necessary data, risk management, and decarbonization strategies to ensure TCFD compliance.

In June 2023 the ISSB launched its first two ESG disclosure standards (S1 and S2). The ISSB was created to develop uniform ESG standards as part of the widely adopted International Financial Reporting Standards (IFRS). The ISSB standards follow the TCFD's disclosure recommendations and are expected to be adopted around the world. Mandatory use of the ISSB in ASEAN could start as early as 2025, although regulators will likely set their local implementation timeline based on feedback from stakeholders.

2.4.3 Europe

The European region has been an important driver of environmental regulation globally, with the European Parliament often taking a leading role in legislating stricter energy efficiency standards, chemical safety rules, and emission reductions. Because of Europe's large market and its progressive stance on environmental regulations, European standards have often been adopted by other countries.

For ASEAN, the most impactful European policies are trade rules that aim to address deforestation and climate change. Recent EU policies have banned the import of goods related to deforestation and imposed import duties on products with high GHG emissions under the new Carbon Border Adjustment Mechanism (CBAM). These policies are affecting ASEAN exports of certain agricultural goods such as palm oil as well as iron, steel, and aluminum.

Some of these European trade policies have been labeled as "green protectionism" by certain ASEAN Governments and business leaders, with sustainability being used as an excuse to protect domestic industries. Resistance has been especially strong from Malaysia and Indonesia, which have filed a dispute with the World Trade Organization regarding palm oil exports. For these neighboring countries, palm oil is a politically sensitive cash crop due to the large numbers of smallholder farmers who are involved in the sector.

Nevertheless, ASEAN countries have generally adapted to the changing demands of their trading partners. In the case of palm oil, a large movement towards sustainability certification has taken root despite the fact that India, China, and Pakistan are far larger buyers of palm oil than the EU and maintain less stringent sustainability requirements.

The UK's recent exit from the EU has led to its signing of the protocol of accession for the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) trade agreement, a pact that also includes ASEAN members Brunei, Malaysia, Singapore, and Viet Nam (Thailand and the Philippines are currently considering membership). The agreement will improve market access for ESG-sensitive exports, such as Malaysian palm oil, to the UK. More broadly, the signing of trade agreements between European countries and ASEAN may reduce potential risks related to ESG by providing a clearer framework for the bilateral trade relationship and mutual recognition of standards. The EU and the UK currently have trade agreements with Singapore and Viet Nam.

The outsized influence of the EU's environmental regulations on ASEAN is likely to persist due to its sizeable market and global role in environmental rulemaking. Firms operating in ASEAN should be mindful of how European ESG legislation can influence the ASEAN business environment in the long term.

2.4.4 United States

The US has traditionally been one of the largest investors and trading partners of ASEAN, although it has been falling behind China in recent years. Similar to the EU, the US has adopted a number of international trade measures that aim to promote environmental policies and human rights across the globe. These include a 2011 amendment to the US Customs rules (19 USC 1307), the 2022 Inflation Reduction Act, and the Clean Competition Act, which has not yet cleared the US senate.

Amendments to US Customs rules prohibit the importation of goods produced by forced labor. In 2021 and 2022, US Customs seized shipments of palm oil and latex gloves from Malaysia on the grounds that migrant workers had been hired through irresponsible recruitment. The companies that produced the seized goods amended their foreign recruitment process to regain access to the US market.

The 2022 Inflation Reduction Act allocates USD 369 billion towards renewable energy production in the US over the next ten years and encourages domestic manufacturing in the US. For ASEAN economies exporting renewable energy equipment, this is a mixed blessing: it leads to a large increase in demand for renewable energy equipment, but there are also new local content rules that may encourage a shift of manufacturing from ASEAN to the US.

Finally, the US is considering adopting the Clean Competition Act, which would be the US version of the EU's CBAM. The Act would cover a wider range of goods and have a greater impact on ASEAN due to stronger transpacific trade ties compared to exports to Europe.

3

ASEAN Sectoral Investment Guides

Many ESG investors approach the ASEAN region as a single market and are interested in specific sectors. Although there are notable differences between ASEAN Member States at the sectoral level, there is often considerable regional economic integration through cross-border supply-chains and investments, along with similar challenges and investment opportunities.

This chapter provides an overview of the nine most important sectors in ASEAN from an ESG perspective, namely: sustainable and social finance (section 3.1), ESG service providers (3.2), construction and real estate (3.3), infrastructure and transportation (3.4), manufacturing (3.5), agriculture and forestry (3.6), electric vehicles (3.7), energy

(3.8), and waste management (3.9). While ESG also matters in other economic sectors, interviews with ASEAN-based stakeholders indicated that these nine sectors offer the greatest business opportunities for ESG investors and businesses. The sectoral investment guides provide an overview of each sector, including the leading sub-sectors and relevant drivers and barriers, as well as recent large ESG investments.

Although the sectors are very different, a number of cross-sectoral factors can be identified. First, the diversity of the ASEAN region means that the opportunities and barriers to ESG investment always vary: what works in one ASEAN Member State may not work in another. Second, international supply chains, financial institutions or international donors tend to be the main drivers of a sector's development, along with domestic demand. Third, local capacity is frequently a barrier, whether in terms of skills, technology, finance or governance. Taken together, this means that a successful ASEAN ESG investment strategy will likely be nationally differentiated, leverage both international linkages and domestic potential, and augment or support the development of local skills, financial and technical abilities, and ESG governance.

An overview of the sectors is given in the table below.

Sectors Overview Table

Sector	Main Opportunities	Main Barriers
Sustainable and Social Finance The ASEAN commercial banking market is valued at USD 3.063 billion in 2021 with projections of USD 16.34 billion by 2031. However, 6 out of the 10 ASEAN countries remain underbanked or unbanked.	• There are regional initiatives such as the ASEAN Taxonomy for Sustainable Finance. • Islamic finance is gaining traction among Muslim countries in ASEAN.	• There is an opportunity cost between ESG and profit (e.g., stakeholder interest protection). • Poor awareness and lack of talent hinder progress.
ESG Service Providers Growing ESG regulation created a demand for ESG services in ASEAN. Examples of ESG services in the market are ESG consulting, ESG rating, and ESG software.	• Increasing need for sustainability reports from investors • Increasing demand from international clients for companies in their supply chain to implement ESG practices	• Limited talent pool • Lack of data, especially from MSMEs
Construction and Real Estate The green building sector in ASEAN is gaining momentum, with investment opportunities expected to reach USD 3.4 trillion by 2025. The main countries driving the green building market in the ASEAN region are Indonesia, Malaysia, Singapore, Thailand, and Viet Nam.	• The Green Mark Incentive Schemes (GMIS) were introduced to boost the adoption rate of green building technologies and sustainable building design practices in Singapore. • Indonesia is estimated to have a USD 16 billion market for green buildings by 2030 and is collaborating with South Korea to develop its new capital city, Nusantara.	• Cost remains the biggest concern for developers looking to invest in green buildings in the region. • There is a lack of public awareness or understanding of the benefits of owning a green building.

Infrastructure and Transportation There is significant infrastructure investment (up to 5% of GDP of ASEAN), but it is largely concentrated in road, ports, and airport construction.	• Large infrastructure investments planned with green finance facility from ADB and other lenders/ donors. • Water supply and treatment infrastructure is also a major sector in need of investment, especially in the least developed AMS.	• Regulatory uncertainty and bankability of sustainable infrastructure projects • Vested interests can also oppose the development of sustainable infrastructure, as it may lead to short-term economic disruptions.
Manufacturing ASEAN is a major manufacturing hub with its large and young workforce and its strategic location. The main industries in the manufacturing sector are electric/electronics, textiles, and automotives.	• Manufacturers often must comply with ISO standards, which makes it easier for them to adopt ESG standards. • Pressure from clients and consumers to adopt green manufacturing practices	• High cost of technology and machinery to implement ESG practices • Educating employees regarding the importance of ESG implementation
Agriculture and Forestry ASEAN is a large agricultural exporter (palm oil, rubber, rice, sugar, etc.) with 15% of world's forests, but faces the continued threat of deforestation.	• Improved farming practices through technology (including traceability) and education increase yields and reduce the environmental impact. • Sale of carbon offset credits is a large potential driver for forest conservation.	• There are many small farmers with a weak socio-economic position, making adoption of new practices more difficult. • Limited local capacity, expertise, and local regulations/standards for sustainable agriculture, forestry, and carbon credits

EVs EVs are seen as a new pathway for the development of the automotive sector in AMS. EVs are produced as part of a global value chain, and the main role of ASEAN Member States lies in the production of raw materials, as well as manufacturing vehicles and batteries.	• EV potential from existing auto industry (Malaysia, Thailand) and natural resources (Indonesia, Philippines). • Several AMS consider the production and sale of EVs as a crucial policy driver to promote domestic EV production and investments in battery production.	• EV affordability concerns, especially for lower-income groups/ rural areas. • There is a lack of charging infrastructure, although Malaysia, Singapore, Thailand, and Viet Nam have announced ambitious targets in this area.
Energy There is growing demand for energy to support economic development. A recent increase in renewables and coal powerplants is observed all around ASEAN.	• Rising demand for renewable energy (also driven by energy security, air quality, and trade/ supply chain concerns.) • Expansion of ASEAN grid and market liberalization • Differentiated renewables opportunities are present in each AMS.	• Inadequate energy market regulations, including subsidies for carbon fuels • Concern over cost of energy, including stranded assets
Waste Management ASEAN generates a lot of waste which presents a huge business opportunity in the waste management and recycling sector.	• ASEAN Governments have implemented policies and regulations to promote waste management and recycling practices. • Increasing urbanization and industrialization.	• Lack of public awareness • Insufficient funding for waste management projects.

3.1 Sustainable and Social Finance

Sector Overview

The finance sector in ASEAN is rapidly growing and diversified, with a mix of traditional banks, non-bank financial institutions, and digital financial service providers. A report by Allied Market Research valued the Southeast Asia commercial banking market at USD 3.06 billion in 2021 with a projected value of USD 16.34 billion by 2031 (Pradeep et al. 2022).

Even after promising growth over the last decade, six out of ten ASEAN countries remain underbanked or unbanked, despite the bloc's previous efforts in promoting regional financial integration, financial inclusion, and financial stability (Bain & Company et al. 2019). Starting with the Roadmap for Financial and Monetary Integration in ASEAN (RIA-Fin) which was established in 2003, regional cooperation has been led by ASEAN Finance Ministers and Central Bank Governors (AFMGM).

Main Countries/Sub-Sectors

The ASEAN Taxonomy for Sustainable Finance was developed in 2021 to provide a common framework for classifying and measuring sustainable activities and serve as a common language for investors, businesses, and policymakers. The taxonomy is expected to help increase the flow of capital to sustainable projects and support ASEAN's transition to a low-carbon economy.

While investors put their money to work in ways that benefit both the environment and society, the sustainable debt and equity markets in Southeast Asia remain relatively small and have limited outreach, especially to MSMEs. The total amount of outstanding sustainable debt raised in 2021 is only about USD 24 billion (World Bank and Institute of Finance and Sustainability 2022). Although the growth of sustainable finance in ASEAN is still in its early stages, a clear momentum is building. The Monetary Authority of Singapore (MAS) estimates that there will be approximately USD 200 billion worth of green investment opportunities in ASEAN by 2030.

The region has the potential to be a global leader in sustainable finance, headed by Singapore. With its leading financial market position in Southeast Asia, the country is well-positioned to become a sustainable finance hub in Asia. Presently, Singapore has established a number of initiatives to promote sustainable finance, including its own green taxonomy, green and sustainable finance grant scheme, green bond principles, ESG skills training subsidy, mandatory ESG disclosure requirements, and government sustainable debt issuance.

Islamic finance is a financial system that is based on the principles of Islamic law, or Shariah. Islamic and sustainable finance share similar values, such as transparency, zero exploitation, and fair treatment. Both financial systems are based on the premise of fair business dealings, which is essential for a sustainable and equitable future.

Islamic finance is gaining prominence in ASEAN, with the region accounting for a significant share of global Islamic finance assets estimated at USD 685 billion in 2019 (Chowdhury & Haron 2021). The region has various factors that are favorable for the growth of Islamic finance including a large Muslim population, improving living standards, and a supportive regulatory environment (ADBI 2018). As awareness about Islamic finance grows and the market becomes more integrated, Islamic financial institutions will be able to attract new customers and expand their businesses in this region.

Malaysia is the leading country in Islamic finance within ASEAN. It has a well-established regulatory framework and infrastructure and a wide range of Islamic financial products and services. Malaysia is also leading the *sukuk* (Shariah-compliant bonds) market, accounting for 39.6% of the world's total outstanding *sukuk*. Earlier this year, Bank Negara Malaysia (BNM) issued a statement on its commitment to strengthening the country's Islamic finance industry and sustaining its position as the global leader.

Drivers

As the world continues to face the challenges of climate change and environmental degradation, sustainable finance is likely to become even more important in the years to come. This is echoed by a private bank employee who stated that financial institutions are aware of their role in mobilizing capital when it comes to sustainable development.

Risk management is another driver for embracing ESG practices and investments. A public sector employee in Malaysia stated that ESG adoption allowed the organization to strengthen its risk management structure. Besides that, sustainable finance offerings such as green financing and transition financing are value-creation opportunities for financial institutions in the region. These offerings can finance climate-led projects such as renewable energy generation and EV production.

Last but not least, ASEAN Member States are clearly making a concerted effort to harmonize their sustainable finance markets. Initiatives such as the ASEAN Taxonomy for Sustainable Finance and the ASEAN Capital Markets Forum (ACMF) Action Plan 2021–2025 are helping to achieve this goal. This will make it easier for foreign investors to invest in sustainable projects in Southeast Asia and create a more level playing field for all market participants.

Barriers

Financial return remains the top priority for financial institutions, but there is also a growing need to strike a balance between profitability and ESG practices. A sustainability leader at a private Malaysian bank stated that banks still need to protect the interest of their stakeholders, especially shareholders, but also address the growing demand for sustainable finance and reducing their environmental impact.

Introducing sustainable financing to MSMEs remains a challenge due to low awareness of the climate issue and negative perception towards the services and products offered. Many MSMEs are not aware of the benefits of sustainable financing or the ways it can help them reduce their environmental impact. Additionally, some MSMEs may have a negative perception toward sustainable finance, believing that it is too expensive or that it will not provide the same level of financial returns as traditional financing.

Finally, the current carbon market is imperfect and ineffective at lowering carbon emissions. A carbon tax would be a better solution to address this issue, as it would put a price on carbon emissions and incentivize businesses to reduce their emissions. However, most Southeast Asian countries have yet to adopt a carbon tax in their policies, and those that adopted such a tax have struggled with implementation and measuring efficacy.

Recent Large Investments

- Cagamas, the National Mortgage Corporation of Malaysia, issued MYR 45 million (approximately USD 9.45 million) 2-year ASEAN Social Bonds to fund the purchase of eligible assets from the financial system.
- Bank of the Philippine Islands issued PHP 20.3 billion (approximately USD 357.5 million) ASEAN Social Bonds in January 2023. The bank is planning to use the proceeds to finance and refinance eligible MSMEs.
- Bank Negara Indonesia (BNI) issued IDR 5 trillion (approximately USD 333 million) in Green Bonds in June 2022. The proceeds will be used for financing and refinancing environmentally sound projects.

ESG Highlight

Investing in Climate Solutions in ASEAN

Embracing a vision for a better, cleaner, and greener future, a pioneering venture firm in Viet Nam is making a profound impact by strategically investing in start-ups across ASEAN dedicated to tackling pressing environmental challenges.

The inspiration behind this initiative was sparked during the co-founder's overseas studies, where he became convinced that the key to climate solutions lies in the potential of ASEAN youth. With the region experiencing the detrimental effects of climate change, including global warming, rising sea levels, and extreme weather events, the urgency to act is clear.

Encouraged by evolving regulations and heightened climate awareness among the youth, the firm sees tremendous potential in fostering environmentally friendly ventures. Moreover, an abundance of educated young minds, untapped markets, and cost-effective opportunities positions ASEAN to become a trailblazer in pioneering climate solutions.

While the aspirations are grand, the ESG market's progress has been impeded by challenges, including insufficient research and technology advancements. Determined to address these hurdles head-on, the visionary venture capitalist is resolute in empowering and supporting the next generation of start-ups eager to confront this pressing global challenge.

3.2 ESG Service Providers

Sector Overview

A growing focus on ESG has created major opportunities for service providers in the ASEAN region as companies scramble to adopt new standards and practices. This has created strong demand for ESG services from companies and investors, leading to the development of policies and strategies to meet market trends. These services also facilitate investment decisions and business partnerships. Some popular ESG services include software and data platforms, training and capacity building, technical expertise, and feasibility studies. Also in demand are consultation services such as transition advisory services and carbon assessment services, as well as access to affordable and credible certification for various sectors.

Main Countries/Sub-Sectors

The provision of ESG services likely mirrors that of other knowledge-intensive business services (KIBS) in ASEAN. Hence, a wide range of ESG services is available, provided by a variety of service providers. Each provider offers a unique set of services and solutions tailored to the specific needs of their clients.

ESG consulting is an example of an ESG service widely used by companies in ASEAN. ESG consulting firms provide advice and guidance for companies to better understand, manage, and report relevant risks and activities. These consultants have expertise in ESG reporting frameworks such as Sustainability Accounting Standards Board (SASB), Task Force on Climate-Related Financial Disclosure (TCFD), and Global Reporting Initiative (GRI), which most companies find difficult to understand. ESG consultants are also able to guide companies in publishing disclosures that align with global and local recommendations from regulatory bodies as regulations differ in each country.

Besides for-profit consulting firms, non-governmental organizations (NGOs) also provide ESG services to the public. These include assisting with ESG reporting, developing assessment tools, training, and building capacity as well as organizing campaigns to advocate for issues surrounding climate change, human rights, and social justice. The World Wildlife Fund (WWF), for example, has been a strong advocate of sustainable finance and a collaborating partner for financial institutions and regulators in facilitating the integration of ESG practices in the financial sector.

ESG ratings are another notable example that entails the evaluation of corporate ESG performance by relevant rating agencies. For a holistic understanding of a company's ESG performance, an extensive criteria will be employed including, inter alia, carbon emissions, labor management, and executive compensation. Investors can use ESG ratings to screen companies for investment while companies can demonstrate their capacity for risk management and long-term value creation with higher scores. However, investors must note that each ESG rating agency uses different methodologies and approaches, so multiple sources of information should be considered before making investment decisions.

An increasing number of companies, especially start-ups, offer ESG software to assist businesses with their ESG initiatives. ESG software is usually built with functions to automate and streamline the process of monitoring, reporting, and improving the environmental and social impact of business activities. The software can also increase efficiency by reducing the time taken to collect and track data as well as identifying and mitigating risks, which will ultimately improve a company's overall ESG performance.

Drivers

Regulatory changes, as well as demand from international customers and investors, are driving the business of ESG service providers.

Sustainability reporting requirements have been made mandatory for publicly listed companies in six out of ten ASEAN countries. These requirements are tailored to each jurisdiction and, currently, there is no common sustainability reporting framework across ASEAN. As ESG and sustainability-related regulations are constantly evolving, it can be difficult for companies to keep up with regulatory changes.

However, most ESG service providers agree that there should be a uniform international framework that is applicable to all companies across different sectors to ensure consistency and reliability. Due to demand from stakeholders, the International Sustainability Standards

Board (ISSB) is in the process of preparing the International Financial Reporting Standards (IFRS) Sustainability Disclosure Standard, an international guideline for sustainability disclosures that will support investor decision-making and facilitate international comparability to attract capital.

Many ASEAN companies work with international clients from the US or the EU. Certain international clients mandate that companies within their supply chain implement ESG practices or strategies in accordance with regulations in the US or the EU. Local companies that are struggling to implement ESG practices could work with service providers to develop a customized strategy that meets specific needs. As demand from international clients increases, demand for ESG services will follow as local businesses seek to maintain their market share.

Barriers

There are a few challenges for ESG service providers, including a limited talent pool and lack of data due to the newness of the field. The ESG field requires a diverse skill set, including financial analysis, environmental science, and social impact assessments. There is a strong demand for ESG training, courses, and certification. In Singapore, universities are developing professional courses for sustainable finance and sustainable investment, catering to market needs from both the public and private sector. With these new courses on the market, there will be more capable ESG professionals in the future.

Secondly, ESG data—especially from MSMEs—is difficult to obtain due to the voluntary nature of sustainability reporting. Data is also fragmented as it is spread out across different sources and collected using different methodologies, making it difficult to analyze. The data itself can also be of insufficient quality, being inaccurate or out-of-date. Therefore, data availability and quality present common challenges for ESG service providers.

Recent Large Investments

It is difficult to quantify major investments in ESG services, but it is clear that many international and local service providers are adding and expanding their ESG offerings as regulatory and international pressure increases. Global service providers, especially the Big Four firms (PwC, Ernst & Young, Deloitte, and KPMG) appear to be expanding their ESG headcount. In 2021, PwC announced that it will invest USD 12 billion over five years to create 100,000 new jobs related to ESG and artificial intelligence.

ESG Highlight

ESG Compliance among MSMEs

ESG is becoming increasingly important for businesses of all sizes, including MSMEs. To assist MSMEs in developing a sustainable ecosystem, an NGO in Malaysia is offering ESG services such as courses and certificates to better equip MSMEs with relevant knowledge and skills. The courses offered by the NGO include an introductory course to ESG, application of ESG practices in the transportation industry, and a course on ESG-related regulations in Malaysia.

The NGO emphasizes three key points for ESG compliance among MSMEs. First, MSMEs need to learn that they should adhere to ESG principles. Second, MSMEs need to find the easiest way to comply with ESG standards, such as selecting an appropriate reporting standard that aligns closely with the nature of their business. The GRI holds particular relevance for service industries, while the Sustainability Accounting Standards Board (SASB) is better suited for the manufacturing industry. Third, the management needs to become strong advocates for implementing ESG practices. A strong commitment from management to allocate sufficient resources toward fulfilling ESG reporting requirements will significantly enhance the likelihood of successful ESG integration.

3.3 Construction and Real Estate

Overview

The green building sector in ASEAN is gaining momentum, with investment opportunities expected to reach USD 3.4 trillion by 2025 according to the International Finance Corporation (IFC). Green buildings are buildings that are resource-efficient, and socially and environmentally responsible throughout their life cycle (SGBC n.d.). Energy consumption in buildings accounted for almost a quarter (23%) of the total final energy consumption in ASEAN. The region's building energy consumption is expected to grow by approximately 60% by 2030 and double to 120% by 2040 if no mitigation efforts are made (IEA 2022). Therefore, the sector plays an important role in realizing a sustainable future.

Main Countries/Sub-Sectors

The main countries driving the green building market in the ASEAN region are Indonesia, Malaysia, Singapore, Thailand, and Viet Nam. The sub-sectors of the green building sector in the region include green building materials, certification, design, systems, and more. Green building materials may include exterior products, interior products, and solar products such as energy-efficient lightings, water-efficient fixtures, and renewable energy systems.

Within this industry, specific countries and incentives are available for investors and developers to explore.

Singapore is a leader in the region's green building sector, with the government providing incentives for developers and building owners who incorporate green features into their buildings. The Green Mark Incentive Schemes (GMIS) were introduced to boost the adoption rate of green building technologies and sustainable building design practices through cash or gross floor area incentives. Two schemes from GMIS are currently active as of May 2023: the GMIS for Existing Buildings 2.0 and the Built Environment Transformation Gross Floor Area Incentive Scheme. Additionally, the National Parks Board also has a Skyrise Greenery Incentive Scheme that provides as much as 50% of funding for the installation of rooftop and vertical greenery projects on existing buildings to increase the greenery available in Singapore.

Indonesia's green building sector is also growing rapidly, with the government introducing tax incentives for green building projects. According to an IFC estimate in its report on climate investment opportunities in cities, Jakarta's green building market is expected to be worth USD 16 billion by 2030. To accelerate the adoption rate of green building practices, the government is providing incentives to developers through tax breaks, additional floor space, technical support, expert advice, and certification.

The value of construction in Indonesia is predicted to rise by 126.31% in 2050 as compared to 2021 with an estimated value of IDR 2.6 trillion (approximately USD 170 million). The cooperation agreement between Korea and Indonesia to relocate the capital city to Nusantara is also expected to boost the construction industry. The USD 32 billion smart city project will create significant demand for construction services, and Korean firms are well-positioned to contribute to this project.

Drivers

The drivers of the green building sector in ASEAN are international trends, government policies, and stakeholders' actions.

International trends emphasizing sustainable practices and green building concepts are also driving the demand for green buildings in ASEAN. The region is seeing an increase in sustainable development projects, with international organizations such as the World Bank and various UN agencies promoting sustainable building practices. Financial institutions around the world also introduced green construction finance and green mortgage programs to incentivize clients in the construction sector to build green, while simultaneously helping them transition into a sustainable business.

Governments in the region are promoting the adoption of green building practices through various policies and fiscal incentives to accelerate the pickup rate. Phase II of the ASEAN Plan of Action for Energy Cooperation (APAEC) from 2021 to 2025 also sets an ambitious target to reduce electricity consumption by 32% from the 2005 level. Considering that energy consumption in buildings is one of the major areas constituting the total final energy consumption in ASEAN, significant energy savings from the sector can also make progress toward achieving this target.

Additionally, stakeholders are increasingly prioritizing sustainability in decision-making, leading to a higher demand for green buildings. Companies investing in green buildings can raise their brand value and build their reputation for being a responsible business as well as reducing their carbon footprint and saving utility costs in the long run. Voluntary participation in green building certifications across the region also serves as a guide for investors and developers to slowly adopt green building practices at their preferred pace.

Barriers

Some of the factors hindering the proliferation of green buildings are cost, and lack of public awareness and understanding.

Cost remains the biggest concern for developers when investing in green buildings in the region. Budget-conscious investors and developers tend to have a short-term focus on profits and feel hesitation about the long return on investment period. Furthermore, the fees to certify a green building may be costly for small or medium-sized businesses with limited financial resources. Depending on the design and desired features of the building, investors or developers may have to invest more in building materials to meet specific certification criteria such as energy efficiency.

The other barrier to green building implementation is the lack of public awareness and understanding of the benefits of owning a green building. The perception that green buildings are expensive stops investors from exploring the option further when green design and systems could potentially lower future maintenance costs and utility fees in the long term. Currently, more investments are being made in professional development, training, and awareness to promote green buildings in the region.

Lastly, the lack of holistic government policies to support green buildings in the region is also slowing down the adoption rate. Many existing policies are targeting energy efficiency in buildings rather than the construction of green buildings. These policies do not directly help lower the cost of developing green buildings.

Recent Large Investments

- The SGD 7 billion (approximately USD 5.1 billion) Marina One project in Singapore incorporates green features such as renewable building products, rainwater harvesting, and energy-efficient lighting as key highlights of sustainability practices.
- The HOMA Phuket Town project in Thailand received a THB 675 million (USD 21.6 million) green loan from a multinational bank to develop an environmentally-friendly residential building in 2021. The project follows green building standards established by the IFC and includes green features, such as solar panels and energy-efficient appliances and lighting. The project developer aims to invest more than USD 250 million to develop similar projects across Thailand within the next five years while in partnership with a local housing property developer.
- A multinational real estate investment group signed a USD 1 billion MoU with the People's Committee of Bac Giang Province in Viet Nam to explore the development of an industrial park, logistics park, and township in Viet Nam. The proposed developments are expected to be sustainable and climate resilient and will be green certified via a globally recognized certification system. The same investment group also began a residential development project valued at USD 807 million in the Binh Duong Province in 2021.

ESG Highlight

Good Green Design Need Not Be Expensive

Despite the perceived high cost and complexity of green building designs, one design group from Malaysia is fearlessly embracing this challenge. Driven by its commitment to sustainability and resilience, the company has amassed a remarkable number of certified facilitators for various international green building accreditations, including GBI, GreenRe, and LEED.

While obtaining green building certifications presents certain challenges, such as high costs and potential disparities in rewarding technology-based solutions, these hurdles should not deter developers from embracing green building designs. The design company proposes an innovative approach of integrating green building principles at the initial stage of the design process. This entails thoughtful consideration of the design's context, building orientation, and natural elements. Embracing green design not only opens up opportunities for outdoor experiences but also ensures long-term resilience, cutting down future maintenance expenses.

According to the design company, raising awareness and promoting education are pivotal in encouraging green building designs across ASEAN. Developers should distinguish between green building certification and green building design, realizing that the latter can be achieved without the burden of costly certifications. By integrating green principles into their projects, developers can not only make a positive impact on the environment, but also contribute to long-term cost savings and resilience.

3.4 Infrastructure and Transportation

Sector Overview

To support their developing economies, ASEAN Member States have a sustained need for infrastructure investment of approximately USD 200 billion annually, equivalent to approximately 5% of GDP (ADB 2017). Although infrastructure is often publicly funded, various forms of public-private partnerships (PPPs) are used to deliver infrastructure projects across ASEAN.

Korea has been a significant contributor to ASEAN infrastructure investment, and in 2019 pledged USD 355 million to the ASEAN Catalytic Green Finance Facility. Managed by the Asian Development Bank (ADB), the Facility aims to support green infrastructure development in the ASEAN region.

Railway construction for, inter alia, mass transit, high-speed rail, and cargo has been the most visible trend in a push for greener infrastructure. However, the concept of green infrastructure extends beyond that to include measures, such as improving air quality, reducing noise pollution, and climate change mitigation measures in conventional road infrastructure to cope with extreme heat and rainfall. Such measures include planting trees and permeable pavements. This also extends to water supply and wastewater treatment, which is a major focus of the Sustainable Development Goals (SDGs), especially in the least developed ASEAN Member States.

Main Countries/Sub-Sectors

Rail appears to be the main focus of sustainable transportation infrastructure in ASEAN, although roads, ports, and airport construction account for the largest share of spending on ASEAN transport infrastructure. The ASEAN railway system has expanded with support from China's Belt and Road initiative, and the opening of the Kunming-Vientiane railway line in 2023 is a notable development in this regard. There are plans to extend the railway further to Bangkok, with the Thailand Government stating 2028 as the completion date. Other ongoing railway plans in the region include the Kuala Lumpur-Singapore high-speed rail, of which a 4-kilometer urban commuter railway between Malaysia and Singapore is set to open in 2026.

Aside from transportation, infrastructure for water supply and treatment is a major sector in need of investment. There is great variety within ASEAN in terms of drinking water supply and wastewater treatment. Among the countries for which comparable data is available, 100% of Singaporean households have access to safe drinking water, and 100% sewage is treated. For Malaysia, these figures are 94% and 89%, while for Lao PDR, they are 18% and 10%, respectively. Viet Nam has made significant progress in recent years; as of 2022, 58% of households have access to safe drinking water, and 67% of wastewater is properly treated. There are often large differences between rural and urban areas, with urban areas having much higher rates of water supply and sewage treatment (UN Statistics Division 2022).

In addition to household access, there are also concerns over water supply and the maintenance of infrastructure. Singapore has gone furthest in developing innovative solutions to this: its NEWater system recycles wastewater into drinking water. This type of solution may also be relevant in other large ASEAN cities. For example, Jakarta relies to a large extent on extracting groundwater for its drinking water needs, which contributes to the city's gradual sinking and related flooding problems. Addressing maintenance problems in water infrastructure is largely perceived as a governance issue, which includes the interaction between regulators and private sector organizations, as well as the issue of water pricing and sewage tariffs, which is viewed as underpriced in several ASEAN Member States.

Drivers

Infrastructure investment is driven by multiple factors including urbanization, rising income, a desire for trade competitiveness, increased demand for mobility and technological change. Recently, the need to prevent and mitigate the effects of climate change has also been a driver of infrastructure expenditure (PwC 2017).

The growth in infrastructure investment is expected to exceed overall economic growth in major ASEAN economies for the foreseeable future (PwC 2017). This growth coincides with a rise in ESG awareness and practices, especially when projects are being financed by international commercial lenders or multilateral financial institutions. Commercial lenders, the ADB, and the Asian Infrastructure Investment Bank require a minimum level of transparency and ESG-related assessments as a precondition for financing. Projects with only domestic or bilateral financing sometimes offer lower levels of transparency, which makes their ESG performance more difficult to assess.

ESG practices concerning infrastructure have notable variations within the ASEAN region. In more open and democratic ASEAN Member States, there is an active role for the media and civil society to monitor ESG concerns related to the social and environmental impact of projects. In other member states, such as Viet Nam, international experts can observe whether the government has an effective system of local consultation when implementing infrastructure projects. In the least developed countries, local capacity is the main barrier to implementing suitable ESG practices. Those countries often rely more on foreign consultants.

Barriers

Aside from a lack of local ESG-related skills and expertise, there are several other barriers that can prevent infrastructure projects with a positive social and environmental impact from taking off. These barriers mainly concern bankability, the role of vested interests and regulatory uncertainty.

Many sustainability-oriented infrastructure projects, such as a wastewater treatment plant or railway, are not financially viable when viewed in isolation, and this lack of financial viability makes them unbankable. An international financial expert noted that this lack of bankability can sometimes be overcome by expanding the scope of the project so that a viable business model can be found. Referring to the example of wastewater treatment, the recovery of nutrients (for fertilizer), and methane capture (for electricity) can be included to make the project more financially viable. Similarly, the development of land located near a railway station as part of a wider project can help to increase its bankability.

Vested interests can also oppose the development of sustainable infrastructure, as it can cause short-term economic disruptions. A senior manager at a logistics firm noted that the development of certain railway lines is opposed by the trucking lobby, which would become uncompetitive compared to the railway's much lower transportation costs. The political influence of the trucking lobby in certain regions has effectively blocked the construction or upgrading of railway lines.

Political and regulatory uncertainty also hinders infrastructure investment, as projects are often delayed or canceled and experience frequent cost overruns. It appears that high-speed rail is especially vulnerable to political uncertainty, as shown in Indonesia, Malaysia, and Thailand. Indonesia's Jakarta-Bandung high-speed rail has been the subject of geopolitical competition between Japan and China, and has seen many years of delay as well as concerns over its safety, accessibility, and financial viability. The timelines of projects that are costly and technically and politically challenging should be viewed with some caution.

Recent Large Investments

- Malaysia is currently proceeding with a MYR 75 billion (USD 17 billion) East Coast Rail Link, approved in 2018, which will connect the capital Kuala Lumpur to the northeastern region of Peninsular Malaysia. This project, which is largely financed by China's EXIM Bank, should complete its first phase in December 2026.

- Singapore is currently building its new Cross Island MRT Line. With a total project cost of USD 10 billion, the first phase of the project will open in 2030.
- Viet Nam's Ho Chi Minh City is investing USD 524 million in its Environmental Sanitation Project with a loan from the World Bank. The project consists of several sewage treatment facilities, which have been tendered to international engineering and construction consortia.

ESG Highlight

Ensuring ESG-Compliant Supply Chains in ASEAN

A logistics firm provides its international clients with reliable and ESG-compliant transportation solutions. Logistics is an economic activity that can lead to several ESG risks, especially in emerging economies. Transportation requires GHG emissions, although fuel-efficient engines can reduce the level. Cost pressures may sometimes lead to violations of labor and safety laws, leading to social issues. Furthermore, there are difficulties regarding international customs clearance. The most high-risk logistics operations are emergency aid deliveries, in which unscrupulous operators take advantage of chaotic crisis situations and violate ESG standards.

The logistics firm ensures, on behalf of its clients, that the environmental, social, and governance risks of transportation are well-managed and transparently reported. While the firm cannot always fully control every step of the logistics chain, the selection of trusted transportation, customs clearance, and warehousing providers reduces ESG risks.

3.5 Manufacturing

Sector Overview

ASEAN is an attractive region for manufacturers thanks to its large and growing working population, skilled young workforce, and strategic location. It is a major manufacturing hub, boasting a strong manufacturing base that produces a wide range of goods from light consumer products to heavy industrial machinery and high-tech electronics. According to the World Economic Forum, the ASEAN manufacturing sector accounted for USD 670 billion, or 21% of Southeast Asia's GDP in 2018, and is expected to double to USD 1.4 trillion by 2028 (ASEAN Innovation Business Platform 2022). In 2021, manufacturing added value contributed to 19% of GDP in Indonesia, 23% of GDP in Malaysia, 21% of GDP in Singapore, and 27% in Thailand, respectively (World Bank 2022a).

The manufacturing sector in ASEAN is expected to see particular growth due to the recent Regional Comprehensive Economic Partnership (RCEP) between ASEAN and trade partners: namely, China, Japan, Korea, Australia, and New Zealand. RCEP is expected to accelerate the flow of goods and investment, which will lower the cost of manufacturing inputs and facilitate the process of building supply chains that leverage different advantages and skills across the region (Meyer et al. 2021).

Main Countries/Sub-Sectors

The electrical and electronics industry is one of the main industries in ASEAN's manufacturing sector, with Malaysia, the Philippines, Singapore, and Viet Nam being the biggest producers of electronics products. The region produces most of the world's consumer electronics such as televisions, computers, and smartphones. Southeast Asia produces more than 80% of global demand for hard drives, with Thailand alone exporting more than USD 10 billion worth of hard drives (CEIC Data 2020). Many MNCs in electronics have expanded operations in the region due to its strong growth potential. For example, in 2019, the Japanese company Panasonic built a second factory in Viet Nam, while Sumitomo Corporation opened an electronic components factory in Cambodia. (ASEAN Secretariat and UNCTAD 2021).

The textiles industry is a significant contributor to employment and trade for several ASEAN Member States. The industry traditionally relied on low labor costs to compete in the global market and although real wages in the sector have increased in recent years, working conditions in many countries need improvement. Workers are often subject to long hours of intense work, low occupational safety and health standards, and human rights violations. However, the industry has also been facing pressure to transition to a more sustainable business model by improving wages and working conditions in line with ESG principles.

The steel sector is a strategic industry supplying inputs for other sectors, including the automotive and construction industries. Steel production, like chemicals and cement manufacturing, has relatively high non-energy related GHG emissions, which makes it a hard-to-abate sector. The steel industry is therefore investing in processes to reduce GHG emissions, including carbon capture, utilization, and storage (CCUS).

Drivers

Most manufacturers have to comply with a set of standards such as ISO (International Organization for Standardization), GMP (Good Manufacturing Practice) or HACCP (Hazard Analysis Critical Control Points) to ensure the quality, safety, and efficiency of their products, services, and systems. Some of the requirements of these standards are aligned with ESG practices, like ISO 14000, which helps manufacturers to minimize environmental impacts, or ISO 450001, which covers occupational health and safety performance. Although there are currently no specific ESG frameworks or regulations for the manufacturing sector, complying with these standards will make it easier for manufacturers to adopt ESG principles in the future.

Pressure from clients and consumers is a significant driver for the adoption of green manufacturing practices. Many companies are now striving to reduce their carbon footprint, and as a result, they will only source products from manufacturers complying with environmental regulations. Additionally, companies are also protective of their brand image, and engaging with manufacturers that engage in unethical conduct such as using child or forced labor will cause reputational damage. As a result, manufacturers are encouraged to adopt ESG principles in order to avoid losing clients.

Barriers

One of the barriers to implementing ESG practices in the manufacturing sector is financial. The technology and machinery required to implement ESG initiatives can be costly, especially for large manufacturers with complex supply chains. Many believe that investments in ESG initiatives are unrecoverable and that it is often difficult to convince shareholders that implementing these initiatives can be worth the cost. However, investing in ESG initiatives can be favorable in the long run as ESG and business goals can be synchronized to work together towards greater productivity.

Another barrier to adopting ESG practices is educating employees on the importance of implementing ESG practices. Some employees do not understand how adopting ESG practices can benefit the business and their lives as a whole and view these initiatives as a hassle and an extra task that needs to be completed. It is imperative for employers to educate and raise awareness about the importance of ESG practices to employees.

Recent Large Investments

- Indonesia's Krakatau Steel and Korea's POSCO announced a USD 3.5 billion investment in Indonesia to expand steel production to 10 million tons per year. The investment will include steel production for use in EVs.
- Korea's LG Energy Solutions is investing USD 9.8 billion in Indonesia's battery supply chain, including a 150,000-ton annual capacity nickel smelting facility, which opened in 2022 in Central Java.
- Chinese companies ASKPCB and WUS Printed Circuit (Kunshan) plan to invest in Thailand's electronics sector

with a total value of THB 12 billion (approximately USD 341 million).

- China's Zanyu has announced the construction of a USD 147.6 million biofuels plant in Lahad Datu, East Malaysia, with the first phase to be completed in 2025.

ESG Highlight

Concern over Raw Material Supply Leads MSMEs to Diversify

A medium-sized Malaysia-based manufacturer of seafood products has identified the sustainable supply of fish as an important environment-related risk. Since overfishing is expected to raise the cost of raw materials, the manufacturer is working to source farmed fish. The process requires significant investment, including a recalibration of the ingredients and recipes for its products, as the taste of wild fish differs from that of farmed fish.

However, a shift to farmed fish also creates an opportunity for expansion into fish farming. The manufacturer has entered a joint venture to construct an integrated fish and vegetable farm. Combining the production of fish and vegetables creates synergies, including a nutrient cycle: some vegetables are used to feed the fish, while fertilizer from the fish can be used to grow vegetables. Recognizing the significance of this investment, a reliable supply of raw materials can also provide the company with a strong basis for growth.

3.6 Agriculture and Forestry

Sector Overview

Agriculture and forestry play a significant role in the ASEAN economy, accounting for up to 15% of GDP in Indonesia and 40% of employment in Myanmar. ASEAN accounts for around 90% of global palm oil production and 70% of the world's natural rubber production. The ASEAN region is home to 17% of the world's aquaculture, with Indonesia, the Philippines, Thailand, and Viet Nam being major producers. Other major exports include rice, sugar cane, cocoa, coffee, tea, coconuts, and fresh fruit. As a result, the region has a well-developed food-processing industry, with large foreign and domestic actors.

ASEAN is home to approximately 15% of the world's forests but faces considerable risk of deforestation due to commercial logging, which is a major threat to its biodiversity. The projected loss of tropical forest would also mean the loss of a large carbon sink, which is capable of absorbing more atmospheric carbon than it emits. Recent efforts to prevent deforestation through the development of GHG emission offset schemes are one way to fund forest conservation. Indonesia, Malaysia, and Singapore have recently launched carbon markets to support this process.

The agriculture and forestry sector (as well as fisheries) straddle a number of interlinked ESG domains, including food security and economic competitiveness, improving the livelihoods of rural populations, and the sustainable management of forest and agricultural lands. The agricultural sector in ASEAN covers the full spectrum of stakeholders, from large commercial and sometimes publicly listed plantation companies and state-led cooperatives to smallholders. Developing ESG policies and practices that serve all these different groups and sub-sectors is an ongoing process.

In collaboration with the Food and Agriculture Organization, World Bank, and other partners, the ASEAN Guidelines for Responsible Agriculture Investment (RAI) were recently adopted in 2018.

Main Countries/Sub-Sectors

Although the agriculture and forestry sector is diverse, it is useful to distinguish between "big" agriculture (large commercial plantations), "small" agriculture (individual farmers with small tracts of land), and the forestry sector.

Big agriculture is mainly prevalent in Malaysia and Indonesia and largely concentrated in the palm oil sector. However, there are also examples of large-scale palm oil and eucalyptus farming in Thailand and fruit and sugar cane farming in the Philippines.

Small agriculture dominates the ASEAN economy, as the majority of farms in ASEAN are privately owned by individuals and lack the scale and corporate structure of conglomerates. Farms tend to measure only a few hectares, and farmers have relatively low levels of income and education. In more economically advanced countries such as Malaysia and Thailand, the average age of farmers is rapidly increasing. Coupled with the average income and education level, this means that farm productivity and yields are often sub-optimal, and there are a range of government programs to support farmers. Although farmers are an independent and often important political bloc, their income is heavily influenced by fertilizer prices, crop prices, and the weather, leaving them economically vulnerable.

The forestry sector poses its own set of unique challenges. Forests are often inhabited by indigenous peoples who have occupied the area for generations and depend on it for their livelihoods. While deforestation puts these groups in conflict with the government and loggers, they are sometimes also able to claim recognition for their customary land rights and receive support from environmental non-governmental organizations (NGOs). Forests are often managed by government agencies, although the need for revenue and economic development can lead to protected forest reserves being degazetted or losing their legal protection.

Drivers

For big agriculture, ESG practices are increasingly driven by customers and investors who demand sustainably sourced agricultural products. As these agricultural firms possess the capital and skills to implement ESG practices, they are often early adopters and are involved in setting sustainability standards. This has led to the creation of a number of sustainable palm oil standards, including the Roundtable on Sustainable Palm Oil (RSPO), the Indonesian Sustainable Palm Oil Standard (ISPO), and the Malaysian Sustainable Palm Oil Standard (MSPO). The demand for ESG compliance also extends to labor practices, as observed among several Malaysian palm oil producers who faced US Customs sanctions over allegations of labor exploitation.

For small farmers, ESG components look very different. Their low levels of income and education mean they are primarily viewed from the social perspective. Because many small farmers are part of a global supply chain, private-sector initiatives, often led by large food processors or agricultural buyers, work to ensure the traceability and sustainability of produce, and introduce new farming practices to enhance yield.

The adoption of new farming methods and traceability has created new opportunities for agricultural technology firms. These include developing of new plant-based foods, implementing precision farming systems to increase yield, and reducing in GHG emissions.

Conservation of the forestry sector is in part being driven by the possibility of selling carbon offset credits. Some experts are optimistic that the rising cost of carbon credits can make forest conservation more economically viable. This change can help local governments raise funds for conservation, rather than facing economic pressure to issue mining or logging licenses to raise revenue.

Barriers

One of the most significant barriers to adopting ESG practices in the agriculture and forestry sector is a lack of information and traceability. For example, until recently, Lao PDR did not have data about nationwide land use and ownership, making it difficult to plan and enforce sustainable land use. Traceability can be challenging without the right supply chain infrastructure, which includes a process for monitoring and/or certification, appropriate collection facilities, and supporting administrative infrastructure. Experts note that many sustainability standards are not easy to implement for smallholders.

Barriers that prevent smallholders from adopting environmentally responsible practices with higher yields include low levels of education, precarious financial positions, lack of scale, and, for some, advanced age. These barriers are self-reinforcing, as low education and precarious finances exacerbate the difficulty of adopting new technologies due to the investment required. Scaling is also more challenging, as it is harder to form an agricultural cooperative with limited means and capacity.

For many agricultural products, including palm oil, the price premium for the sustainable product is small due to limited market awareness. The creation of carbon offset credits is limited by local expertise, uncertainty over certification standards and, in some cases, uncertainty over land ownership–especially when customary land rights are involved.

Recent Large Investments

- In its 2021 budget, Indonesia announced IDR 104 trillion (approximately USD 6.6 billion) in spending for food security, including investments in infrastructure and technology adoption. As part of the initiative, Indonesia signed an MoU with Microsoft.
- The European Investment Bank announced a EUR 15 million (USD 16.2 million) grant for sustainable agriculture in Cambodia in 2021.
- Malaysia announced a USD 2.2 million seed fund for the development of nature-based carbon offset credits in March 2023.

ESG Highlight

Palm Oil Supply Chain Traceability Leads to ESG Project for Small Farmers

Confronted by public scrutiny of its palm oil supply chain in Malaysia, a US-based multinational corporation found an urgent need to enhance traceability. While traceability was relatively simple to implement when sourcing from large scale plantations, existing suppliers consisted of many small farmers, who typically had only one, or at most a few acres, of palm oil under cultivation. Abandoning these small farmers, who were often from weaker socio-economic positions, was not an option either.

Therefore, the corporation helped fund the creation of an association of small farmers and worked in partnership with the Roundtable for Sustainable Palm Oil (RSPO) and local universities to adapt and implement its sustainability standards for this group. Aside from developing a workable solution for certification, the project also created an opportunity to develop the skills of small farmers. This program helped to increase yields, further raising farmers' income. While sustainability certification for smallholders is still too expensive to justify the cost on a commercial basis, the program is being continued with funding from a Singapore-based investment fund.

3.7 Electric Vehicles

Sector Overview

The EV sector has received significant attention from media and policymakers and is a highly visible example of sustainable economic development due to both consumer awareness and the role in automotive manufacturing in several ASEAN economies. In addition to their role of lowering GHG emissions, EVs are seen as contributing to improved urban air quality, and as a new pathway for the development of the automotive sector in ASEAN Member States.

ASEAN is already a powerhouse in the automotive industry, which is expected to experience continuous growth, particularly in Indonesia and Thailand, the largest automotive manufacturing hubs in the region. Around 3.54 million motor vehicles were produced in Southeast Asia in 2021 and the number of motor vehicles produced increased to 4.38 million in 2022 (Ganbold 2023). To achieve the region's goal of carbon neutrality, ASEAN Member States are planning to phase out conventional internal combustion engine vehicles in favor of EVs or similar technologies to reduce transportation emissions. ASEAN also aims to be the global EV production hub and is supporting the adoption of EVs by developing policies and incentives to encourage investment in this area.

EVs are produced as part of a global value chain, and the main role lies in the supply of raw materials, as well as manufacturing vehicles and batteries. R&D related to EVs is largely done outside the region, and there are no major domestic EV brands, with the notable exception of Viet Nam's VinFast.

Related to EV production and adoption is the need for charging infrastructure and a number of local ASEAN firms have recently entered the market. These include state-owned and multinational energy companies, local start-ups, and automotive companies aiming to support the development of the EV market segment.

Main Countries/Sub-Sectors

EVs are a relatively new and fast-growing sector in ASEAN, and regional EV sales remain highly concentrated in Thailand (60%), Indonesia (25%), and Singapore (12%). Malaysia, which accounts for only 3% of EV sales, has recently announced new measures to promote EV ownership, and its share of ASEAN EV sales is therefore likely to rise in the near future. It is also worthwhile to note that there are significant differences in vehicle ownership among the largest automobile producers in ASEAN. While there are 994 four-wheel vehicles per 1,000 persons in Malaysia, there are just 45 vehicles per 1,000 persons in Viet Nam. As of 2020, Indonesia had an ownership ratio of 485 vehicles per 1,000 persons, and Thailand had a rate of 608 vehicles (Tham 2022).

The EV supply chain is complex including the production of batteries, electric motors, and semiconductors, as well as vehicle assembly and battery recycling. As of October 2022, Thailand has the most complete EV ecosystem.

It should also be noted that the ownership structure of EV production differs. Thailand is well known as a production hub for MNCs, whereas in Viet Nam, EV production is driven by a local private sector firm. Malaysia and Indonesia have a mixed configuration of domestic and international suppliers.

Drivers

The production and sale of EVs is an important policy driver in several ASEAN Member States. Indonesia, Malaysia, Thailand, and Viet Nam have all announced policies that encourage the domestic production of EVs, and in 2022 Vietnamese manufacturer VinFast launched ASEAN's first "homegrown" EV. All four countries are also making significant investments in battery production. Based on its large nickel and cobalt deposits, the Philippines' involvement in the EV sector has much potential. The Philippines' Electric Vehicle Industry Development Act (EVIDA), which came into effect in April 2022, provides various incentives for manufacturing and owning of EVs, EV components and charging equipment.

The EV ambitions of different countries are shaped by their national context. In Malaysia and Thailand, they are linked to the countries' existing automobile industry. In Indonesia, it is part of a larger industrial upgrade strategy that aims to take advantage of the fact that Indonesia produces many of the raw materials needed for EV batteries. In Lao PDR, EV adoption appears to be related to the country's large hydropower capacity (offering low-cost electricity) and EV adoption is seen as a strategy to reduce petroleum imports.

Barriers

While there is considerable excitement about EVs in several ASEAN Member States, there are also concerns over their high cost and the need for new charging infrastructure. Although the World Bank has argued that EVs are economically competitive in the long term, energy experts in Indonesia and Thailand have noted that the high upfront cost of these cars is a large barrier to entry. Lower-income groups living in rural areas in these countries rely on relatively inexpensive and older (10+ years) vehicles for their transportation needs. Experts from these countries emphasize the need for a differentiated strategy to support these groups, such as encouraging the use of biodiesel.

Another important challenge is the lack of charging infrastructure although Malaysia, Singapore, Thailand, and

Viet Nam have announced ambitious targets in this area (Tham 2022). Furthermore, most larger ASEAN economies, as noted in the previous chapter, have a relatively large amount of non-renewable energy in their electricity grids. This largely limits the potential emissions benefits from the adoption of EVs.

Recent Large Investments

- Japanese automaker Toyota plans to invest IDR 27 trillion (USD 1.8 billion) in Indonesia over the next five years to produce EVs as part of its efforts to transition to renewable energy sources.
- Samsung SDI Energy Malaysia will invest MYR 7 billion (approximately USD 1.5 billion) towards building a cutting-edge facility to manufacture batteries for EVs in Negeri Sembilan, Malaysia. The new facility is expected to begin operation in 2025 and will have the capacity to produce 800 million battery cells a year.
- In July 2023, Indonesian electric vehicle start-up Maka Motors raised a USD 37.6 million seed round to mass-produce its two-wheeled EVs, with production scheduled to start in late 2024.

ESG Highlight

Korean Start-up Partners with Indonesian University to Turn Petrol Motorcycles Electric

A Korea-based start-up specializing in converting petrol-powered motorcycles to electric powertrains (EVs) has entered the Indonesian market and established a partnership with a local university. Its investment aligns with Indonesian Government policies aimed at reducing GHG emissions and air pollution by encouraging the conversion of two-wheelers into EVs. The partnership with the Indonesian university enables the company to access certain government incentives, which aim to bring 13 million electric motorcycles onto Indonesian roads by 2030. The partnership also enables the start-up to conduct R&D, test some of its EVs and explore further collaboration with other Indonesian partners.

In addition to converting motorcycles into EVs, the start-up is also developing its own battery technology, offering charging solutions as well as fleet-management solutions such as vehicle tracking for its corporate clients. In this way the company is able to fully support the EV transition in Indonesia.

3.8 Energy

Sector Overview

The ASEAN energy sector has seen rapid growth in recent years, with installed capacity rising from around 100 GW in 2005 to 275 GW in 2020. Although the region saw an increase in the share of renewable energy capacity, rising from approximately 18.5% to 33.5%, coal-fired power plants have accounted for most of the growth in non-renewable energy capacity (IEA and College London 2023).

The International Energy Agency projects that ASEAN needs to invest around USD 200 billion annually by 2030, of which 75% should be in renewable energy, if ASEAN is to meet its commitments under the Paris Agreement. Within an ASEAN context, natural gas is regarded as a transitional energy source because its carbon emissions are much lower than those of coal.

The issue of energy is highly complex due to the adoption of new energy technologies, the prevalence of subsidies for fossil fuels, regulated energy markets, and the need to balance environmental concerns with social and economic ones.

Main Countries/Sub-Sectors

With rising investment in renewable energy, ASEAN's energy mix is becoming more diverse. While in 2005 most renewable energy originated from hydropower, the region has seen rapid growth in the adoption of solar energy (IEA and Imperial College London 2023).

Energy adoption strategies vary by country and are based on their geography and natural resource endowment. Viet Nam, with its long coastline, has seen significant investment in wind turbines, an energy source that is not viable at lower latitudes or in mountainous areas. Biofuels produced from palm oil are a focus in Indonesia, Malaysia, and Thailand, as is ethanol produced from sugar cane in the Philippines and Thailand. However, the use of food sources for energy raises concerns over food security.

Rooftop solar is being adopted across ASEAN countries and has become economically competitive due to the falling cost of solar panels. Large-scale solar projects are also being developed, although there is concern over land use as solar panels displace natural vegetation.

For the Mekong region countries, hydropower is a major source of low-cost renewable energy. However, dam construction can have adverse socioeconomic and biodiversity effects due to reduced water flows. As the Mekong River also plays an important role in irrigation and fisheries, the overdevelopment of hydropower is a concern. Geothermal power generation is an area of attention in Indonesia and the Philippines.

Carbon capture, usage, and storage (CCUS) is an area of great interest but is currently uneconomical for most ASEAN-relevant applications. Early adopters would likely be the oil and gas industry. Methane capture, on the other hand, is more common, although it is typically done on a small scale. A notable recent development in the CCUS field is the Shepherd Project, which involves the capture of carbon dioxide from difficult-to-abate industries in Korea and permanent storage underground in Malaysia. The project is being jointly undertaken by Malaysian, Korean, and European MNCs.

Drivers

Besides countries' climate change commitments, investment in renewable energy is driven by several factors including air quality concerns, energy independence, foreign taxation, and rising domestic and foreign demand.

International commitments under the Paris Agreement are leading governments to address high-emissions energy generation, including the possibility of the early phaseout of coal power and restrictions on vehicle emissions, among other measures. Since coal and vehicle emissions in particular are major sources of air pollution in large urban areas, these actions have wide-ranging environmental benefits beyond reducing GHG emissions.

In net-energy importing countries, renewable energy is also seen as an opportunity to reduce energy imports and increase national energy independence. Although the upfront investment costs of renewable energy may be high, operating costs are often much lower, leading to long-term benefits.

Due to corporations addressing their GHG emissions and the imposition of carbon import taxes, notably by the EU, demand for renewable energy from the corporate sector is increasing. Within a regional context this also leads to cross-border demand, notably by Singapore and Thailand, which have bought hydropower electricity from Lao PDR. Malaysia recently lifted restrictions on renewable electricity exports to neighboring Singapore.

The expansion of the ASEAN power grid increases opportunities for the distribution of renewable electricity across the region.

Barriers

Although there are many drivers for the adoption of renewable energy, the energy transition in the ASEAN region faces some significant barriers, all of which are essentially related to economic and financial considerations.

Many ASEAN Governments face a tradeoff between sustainability on the one hand and access and affordability on the other. As a result, these governments provide large direct subsidies for fossil fuels, including Indonesia (USD 24 billion), Malaysia (USD 3 billion), Thailand (USD 32.3 billion), and Viet Nam (USD 31.5 billion) (IEA and Imperial College London 2023). The subsidizing of GHG emissions runs counter to countries' climate change commitments, and the large budgets spent on energy subsidies would ideally be re-allocated towards encouraging affordable renewable energy solutions (Tham and Zhang 2023).

Another concern involves regulation of the energy market and the need for transparent pricing and credible policies regarding feed-in tariffs (FIT). In this regard, Viet Nam serves as both a great success story and a cautionary tale for renewable energy investment. Starting in 2016, the Vietnamese Government started providing attractive FIT rates, leading to an unexpected increase in wind and solar power investment. Solar power capacity reached 16,500 megawatts in 2019, far surpassing the government's target of 850 megawatt (Lam 2022). Because the increase was so rapid, however, Viet Nam soon faced grid capacity constraints and project developers were only able to sell a small share of their energy to the grid.

For renewable energy projects to be investible, clear regulations, price setting mechanisms (e.g., through auctions), and grid planning are needed.

Aside from the risk for the selling side, financing renewable energy also poses challenges, including the management of foreign currency hedging, green and sustainable bond issuance, and project financing, which is not always available due to relatively underdeveloped local capital markets. The underdevelopment of the financial sector can lead to higher equity to loan ratios and financing costs (that is, interest).

Due to the rapid growth of energy demand, ASEAN Member States such as Indonesia, Malaysia, and the Philippines have a large number of relatively new coal-fired power-plants. While phasing out coal in favor of renewable energy is a key strategy to address GHG emissions, it also raises the risk of stranded assets: whereby coal power plant owners either need to be bought out or face the risk of bankruptcy if coal power is no longer allowed onto the grid. Such a phaseout could have knock-on effects for coal mining and banks that had been financing coal.

Recent Large Investments

- In 2022, Indonesia and Viet Nam received commitments of USD 20 billion and USD 15.5 billion respectively for their energy transition under the Just Energy Transition Partnership (JETP), a program funded by large donors, including the EU, the US, Canada, Japan, and Norway.
- Viet Nam is planning a 3.5 GW offshore wind farm that will cover a 600 square kilometer area; the USD 10.5 billion project is funded by Danish and Vietnamese investors.
- The Indonesia-Singapore Solar PV Mega Project will develop 3.5 GW of solar power capacity and storage

in the Riau Islands, bordering Singapore. The total investment is between USD 5–6 billion, with investment coming from German and Singaporean corporations.

ESG Highlight

Oil and Gas Company Reduces Emissions from Aging Assets

A Malaysian oil and gas operator producing from high CO2 fields is reducing its emissions by investing in new equipment. This process is made commercially viable by a combination of efficiency gains and an ability to generate new revenue streams. Investments in new membranes allow the capture of CO2 and methane; the captured methane can be sold, while carbon dioxide is re-injected, reducing emissions by around a third. Upgrading aging compressors increases equipment reliability, reducing the need for flaring, and thus also increasing the amount of gas that is captured for sale. The new equipment is also more energy-efficient.

While rooftop solar panels have been installed, they cannot fully compensate for the generators needed to power offshore installations. For aging oil and gas assets, significant gains can be made in reducing GHG emissions, but without any carbon pricing, there is limited commercial justification for making further investments. In the medium term, advances in CCUS and carbon pricing may stimulate additional investments, but by that time the high CO2 assets the company currently operates may have already reached the end of their life cycle or retired ahead of schedule.

3.9 Waste Management

Sector Overview

ASEAN is a region with a rapidly growing population and economy, which results in increasing waste generation. In 2016, the region generated an estimated 150 million tons of waste, and the amount is expected to more than double by 2030 (Tan and Lim 2020). The high volume of waste presents enormous business opportunities in the waste management and recycling sector. The waste management sector, valued at USD 18 billion, is predicted to grow at a compound annual growth rate (CAGR) of over 7% by 2028 (Mordor Intelligence 2022). It is a growing market and therefore has the potential to play a significant role in the region's economic development and environmental sustainability.

Main Countries/Sub-Sectors

Waste management includes various sub-sectors such as municipal waste, industrial waste, hazardous waste, electronic waste, and plastic waste. The most common methods of waste disposal in ASEAN are landfilling, incineration, and recycling. Waste-to-energy technologies (WTE) are also utilized by some countries as a sustainable waste management solution due to scarcity of land. The main countries driving the waste management and recycling market in ASEAN are Malaysia, Singapore, and Thailand.

Being a small island country, Singapore has developed an advanced waste management system that minimizes the use of land. 60% of Singapore's waste is recycled, and another 37% is incinerated at four waste-to-energy (WTE) plants. The remaining 3% of non-incinerable waste is landfilled. The four WTE plants generated 3% of the island's total electricity needs. The National Environment Agency is currently developing an Integrated Waste Management Facility (IWMF) in Tuas to meet Singapore's long-term waste management needs. IWMF is designed to process 5,800 tons of incinerable waste which will reduce the amount of waste that is sent to landfill. Besides that, the facility is also able to generate clean energy and recover valuable resources that can be reused (NEA n.d.). The IWMF is a strategic investment in Singapore's long-term growth and is a step-forward in Singapore's journey towards becoming a zero-waste nation.

Thailand is making significant progress on improving its waste management system. The government has several policies for waste management such as the National Solid Waste Management Master Plan (2016–2021) and the Roadmap on Plastic Waste Management (2018–2030). The National Environment Board has approved the 2nd National Action Plan on Waste Management (2022–2027) with the goals of ensuring proper management of 80% of municipal solid waste and promoting WTE incineration to lessen the amount of waste that is not disposed of in an environmentally friendly manner (Pollution Control Department 2022). Thailand is also moving towards a circular economy, as emphasized by the government in the Eastern Economic Corridor (EEC). WTE continues to be an important part of the circular economy both in the EEC and Thailand as a whole. The country plans to build 79 WTE plants in the future, with a total installed capacity of 619.28 megawatts. Although WTE is a great initiative for a sustainable waste management solution, it can harm recycling efforts as people will be more inclined to burn their waste instead of recycling it.

Drivers

The primary drivers of the waste management and recycling sector in ASEAN are regulatory policies and international trends. ASEAN Governments have been implementing policies and regulations to promote waste management and recycling practices in their respective countries. The ASEAN Framework on Circular Economy and ASEAN Regional Plan for Combating Marine Debris, for example, are regional initiatives aimed at reducing waste and promoting sustainable consumption and production in Southeast Asia.

Increasing urbanization and industrialization are other drivers of the waste management sector. ASEAN is undergoing rapid urbanization: 50.1% of the region's population lived in urban areas in 2020, and the percentage is expected to increase to 55.7% in 2030. Out of a total population of 726 million in 2030, 405 million people are estimated to be a part of the region's urban population (ASEAN Secretariat 2022b). Urban areas are known to generate more waste compared to rural areas, which poses a serious environmental challenge for ASEAN. While the amount of waste generated by low- and middle-income countries in the region is considerably lower than more developed countries, rapid urbanization and industrialization will lead to an increase in the amount of waste generated (UN Environment 2017). The sector is expected to grow as the region's population continues to rise.

Barriers

A few challenges faced by the waste management sector are lack of awareness from the public and insufficient funding for waste management projects.

Awareness regarding the importance of waste management practices and circular economy in ASEAN is still at an early stage. There is room for improvement in Malaysia's recycling system, especially in educating the public on the correct method of recycling waste. Most of the time, waste is not sorted correctly, making it harder to process. Recyclables are often contaminated as food packaging is not washed or cleaned properly before being thrown away. Waste that is contaminated will be rejected and not recycled by waste processing centers. Additionally, there is insufficient awareness regarding the environmental and economic benefits of proper waste management. For example, most people are not aware that there are companies that collect used cooking oil to be converted into biodiesel. Households and businesses can get paid for selling used cooking oil to these companies. By recycling used cooking oil, households can not only earn money, but also contribute to environmental conservation.

Insufficient funding for waste management projects is another challenge for this sector. There are numerous MSMEs and start-ups across ASEAN that specialize in sustainable waste management and circular economy. However, these projects are difficult to scale up as investors are only interested in big projects with higher returns. Therefore, it is difficult for these small companies to obtain the required funding needed to run their business.

Recent Large Investments

- ASEAN received a USD 20 million regional grant from the World Bank to reduce marine plastic pollution for the Southeast Asia Regional Program on Combating Marine Plastics (SEA-MaP). The objective of this program is to reduce plastic consumption, increase recycling, and minimize leakages to prevent marine plastic pollution.
- In 2022, SK Ecoplant, the green business unit of SK Group from Korea, invested USD 80 million in Malaysia's leading waste management solutions and provider, Cenviro Sdn. Bhd. SK Ecoplant signed an agreement with Khazanah Nasional Berhad, Malaysia's sovereign wealth fund, to purchase a 30% stake in Cenviro Sdn. Bhd. This partnership is a major milestone in Cenviro's regional strategy, as it combines SK Ecoplant's operational and technological expertise with Cenviro's strong local presence.

ESG Highlight

Pioneering Waste Management for a Sustainable Future

A waste management firm based in Malaysia is dedicated to supporting the community by efficiently managing and minimizing waste while prioritizing environmental preservation. This company is also steadfast in promoting the shift from conventional linear economy approaches to circular economy practices within the waste management sector.

As part of the company's sustainability strategy, the company has implemented waste minimization programs that include separation of waste at source, diversion of waste, and various kinds of utilization and treatment of waste as a secondary source. The company is also actively identifying risks and opportunities related to material sustainability matters. It has a number of mitigation actions in place to reduce vulnerability to threats and hazards, including policies, frameworks, education programs, and an emergency preparedness plan. To select a suitable risk mitigation approach, any new techniques employed to mitigate risks will be tested through pilot initiatives. The evaluation of these pilot projects will serve to validate the feasibility of the project idea and enable the company to adapt its business models to align with ESG principles.

Furthermore, the company welcomes collaboration with other corporations to manage and reduce waste. This collaboration does not only facilitate more waste collection and increase recycling rates, but it also assists these corporations to achieve their ESG goals. Adopting an ESG-focused action plan allows the company to establish a sustainability agenda that emphasizes low-carbon practices and resource efficiency, thereby facilitating long-term growth and showcasing its dedication to accelerating the transition to a more sustainable society.

4

Key Findings and the Way Forward

This chapter provides an overview of some of the key findings of this report, along with recommendations (section 4.1) and the way forward for ASEAN-Korea collaboration on ESG (section 4.2).

4.1 Key Findings and Recommendations

In summary, ASEAN is a highly diverse region in which ESG practices are fast gaining traction. Currently, the understanding of ESG is mainly found among businesses and government officials, while the general public remains largely unaware. Policymakers are faced with competition between environmental (E) and social (S) concerns as they attempt to lead a just and credible sustainability transition and there is a consensus that environmental progress is not possible without social advancement.

The development of ESG standards and ESG capacity building is also an area of shared concern across ASEAN Member States. The ESG standards adopted and promoted by large MNCs and advanced economies are often seen as unsuitable for the local ASEAN context, and especially for adoption by small farmers and MSMEs. In this regard, there is a genuine movement towards developing common ASEAN ESG standards, notably in the area of finance–as exemplified by the ASEAN Taxonomy for Sustainable Finance–but also in areas such as migrant workers' social security and sustainable forestry management.

ASEAN's diversity poses challenges for regional co-ordination surrounding ESG practices as countries with higher per capita income have more opportunities and alternatives to pursue for sustainability-related initiatives.

International engagement on the ESG issue is both an advantage and disadvantage for ASEAN Member States. On the one hand, international partners are supporting the development of ESG practices and funding important parts of the energy transition (for example through JETP in Indonesia and Viet Nam). On the other hand, there are harms caused by the dumping of plastic and electronic waste, and the imposition of trade restrictions, ostensibly to protect the environment or ensure labor rights, but which also harm the export competitiveness of ASEAN Member States.

For investors, this means that ESG practices are dynamic and are driven by a complex set of domestic and international rules and regulations, thus offering both risks and opportunities. While there is an undeniable movement towards ESG standardization at the ASEAN and international level, local priorities mean that the ASEAN region will have "multi-speed" adoption of ESG practices for the foreseeable future.

ESG investors should take note of the risks related to domestic political uncertainty and climate change, as well as from external stakeholders such as its major trading partners. Although ASEAN as a region represents a significant economic bloc, it is important to note that a variety of structural changes in the world surrounding it could affect specific sectors and countries in ways that may be unanticipated. In the energy sector, for example, foreign policies on taxation and the reliance on coal could negatively affect a number of ASEAN countries. Given that each country within ASEAN, aside from Indonesia, is rather small in size, local authorities often have to react towards foreign policies that affect them, rather than being a moving force within the ESG landscape. This is not a risk unique to ASEAN, but one that investors should be aware of in addition to political and climate risks.

To further encourage the adoption of ESG practices at the regional level within ASEAN Governments and inter-governmental agencies could consider the following:

- promoting the creation of ASEAN-wide ESG standards and frameworks;
- developing simple national ESG standards for MSMEs;
- developing scenarios, roadmaps and ESG action plans to inform and mobilize stakeholders;
- promoting ESG in public procurement; and
- focusing on ESG-related local capacity building, both at universities and for working professionals.

4.2 ASEAN-Korea ESG Partnerships: A Way Forward

ASEAN-Korea ESG partnerships can support a development trajectory that leads to a best-case scenario outcome. These partnerships can be considered at two levels: the regional ASEAN-Korea level and the bilateral level. At the regional level, both parties share a vision and purpose centered around sustainable development, inclusive growth, and future prosperity.

Within ASEAN, leaders have declared the mainstreaming of the Four Priority Areas of the ASEAN Outlook on the Indo-Pacific (AOIP) through ASEAN-led mechanisms. The AOIP provides guidance for cooperation in the region, promoting and enabling an environment for peace, stability, and prosperity, strengthening confidence and trust, enhancing the ASEAN community building process, and reinforcing existing ASEAN-led mechanisms such as the East Asia Summit (EAS). It also seeks to implement existing cooperation programs and explore new areas of cooperation, including in the maritime sector, connectivity, the Sustainable Development Goals (SDGs), and various other economic endeavors.

The Korean Government, through the Korea-ASEAN Solidarity Initiative (KASI), has announced its commitment to collaborate with ASEAN on the following initiatives:

- Implementing key strategic activities proposed in the AOIP. This initiative reflects Korea's dedication to fostering cooperation and achieving shared objectives with ASEAN in line with the AOIP's vision and priorities.
- Enhancing cooperation with ASEAN in various areas related to climate change and future industries. Initiatives such as bilateral maritime cooperation channels with ASEAN countries, the ASEAN-Korea

Methane Action Partnership and the ASEAN-Korea Methane Reduction Cooperation Project have been proposed.

These initiatives highlight Korea's commitment to supporting ASEAN in addressing climate change, promoting sustainable development, and fostering cooperation in key areas such as clean energy, environmental protection, and smart city development. By collaborating on these projects, ASEAN and Korea aim to achieve common goals and contribute to a more sustainable and prosperous future for the region.

In addition to the environmental and climate change initiatives, the Korean Government has proposed capacity-building projects in various sectors. These include the following:

- The ASEAN-Korea Infectious Disease Response Capacity Building Project (2022–2026) which is aimed at enhancing ASEAN's capacity to respond to infectious diseases, including cooperation on the development of COVID-19 therapeutics and vaccines. It also includes education and training programs for the development of biomedical personnel.
- Expansion of the ASEAN Scholars Program, which promotes educational exchanges and scholarship opportunities for students from ASEAN countries to study in Korea.
- The Women's Empowerment and Technical and Vocational Education and Training (TVET) Program, which focuses on empowering women and providing vocational education and training opportunities to enhance their skills and promote their participation in the workforce.
- Korea may also share its experience and expertise in implementing initiatives such as the "Large-SME Win-Win Growth Strategy" and the Korea Emission Trading System (K-ETS) with ASEAN.

In the context of bilateral relations, there is ongoing consideration regarding the implementation of carefully tailored cooperation strategies. The cooperation strategy entails a diverse range of programs, encompassing Official Development Assistance (ODA), nature protection initiatives, ESG monitoring systems, industry collaboration, sharing of best practices, capacity building, research and development (R&D), ESG research, and investment schemes.

The growing adoption of ESG practices in the ASEAN region presents a new opportunity for collaboration between the public and private sectors of ASEAN and Korea. By mobilizing private investment in ESG initiatives supported by regional ESG standards, policies, and partnerships, ASEAN and Korea can develop comprehensive and balanced solutions to their diverse social, environmental, and governance challenges.

Appendix: ESG Policy and Regulation Analysis

In order to systematically inventory the ESG policies and regulations of ASEAN Member States, a “checklist” approach was used to search for relevant policies. The checklist is based on an earlier report by Ernst & Young (2022) and a recent paper by Singhania and Saini (2022). Data about existing policies and regulations were collected from different websites, reports, and other public sources. For each item, an internet search was conducted to determine if a specific policy or regulation exists in a country.

Whenever possible, and to ensure data validity, the policy and regulation checklists were sent to relevant authorities in the respective countries for verification.

The checklist consists of 62 indicators and can be divided into six categories: ESG Policy Framework, ESG Investment, Environmental, Social, Governance and ESG Treaties.

ESG Policy Framework

Green/sustainable development/SDG plan[1]

Low-carbon emissions plan[2]

Climate change adaptation/mitigation plan[3]

Energy transition or renewable energy plan[4]

Sustainable finance/ESG investment plan[5]

Human rights commission

Net-zero emissions commitment

Coal phaseout commitment

ICE engine phaseout commitment

Income inequality reduction plan

1 Examples include the Roadmap of SDGs Indonesia towards 2030 (ID), the Environmental Sustainability in Malaysia 2020–2030 roadmap (MY), the Singapore Green Plan 2030 (SG), Thailand's NDC Roadmap 2021–2030 (TH), and the National Action Plan for the Implementation of the 2030 Agenda for Sustainable Development (VN)

2 Examples include Indonesia's Long-term Strategy for Low Carbon and Climate Resilience 2050 (ID LTS-LCCR 2050) and Singapore's Long-Term Low-Emissions Development Strategy (LEDS)-Charting Singapore's Low Carbon and Climate Resilient Future (SG)

3 Examples include the National Climate Change Action Plan 2011–2028 (PH) and the Climate Change Master Plan 2015–2050 (TH)

4 Examples include the Philippine Energy Plan 2018–2040 (PH), the Alternative Energy Development Plan 2015–2036 (TH) and the Power Development Plan 2018–2037 (TH)

5 Examples include Sustainable Finance Roadmap Phase II, 2021–2025 (ID), SRI roadmap (MY), the Green Finance Action Plan (SG), the sustainable finance roadmap incorporated into the SEC Strategic Plan 2020–2022 (TH), and the Financial Sector Action Plan on the Implementation of the National Green Growth Strategy up to 2020 (VN)

ESG Investment

ESG taxonomy

Sustainable/green debt market

Sustainability equity index

Sustainability risk management

Disclosure requirements-greenhouse gas emissions

Disclosure requirements-pollution and hazardous waste

Disclosure requirements-environmental/climate risk

Disclosure requirements-human rights/anti-slavery

Disclosure requirements-anti-corruption

Disclosure requirements-anti-discrimination (gender, race, etc.)

Policies to mainstream sustainable finance

Corporate governance code

Stewardship code

Business & human rights code

Requirement to separate CEO and chairman role

Carbon trading system

ESG SME investment/credit facility (by the government)

Local ESG data platform

Environmental

Vehicle emissions standards

Electric vehicle incentives

Energy labeling scheme (consumer products)

Energy labeling scheme (buildings)

Carbon tax

Environmental tax incentives

Sustainability technology R&D center and support scheme

Social

Freedom of association for employees

Minimum wage legislation

Diversity equity and inclusion

Social security–disability insurance

Social security–old age pension

Occupational health and safety legislation

Life-long learning/upskilling programs or legislation

Equal pay legislation

Governance

Anti-discrimination legislation

Anti-human trafficking legislation

Access/freedom of information legislation

Data privacy protection legislation

Bribery and corruption reporting obligation

Anti-foreign corrupt practices legislation

Whistleblower protection legislation

Anti-money laundering legislation

ESG Treaties

The Paris Agreement

The Convention on Biological Diversity (cbd.int)

United Nations Framework Convention on Climate Change

Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)

Freedom of Association and Protection of the Right to Organise Convention, 1948

Discrimination (Employment and Occupation) Convention, 1958

Occupational Safety and Health Convention, 1981

International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families

United Nations Convention against Corruption

International Covenant on Civil and Political Rights (ICCPR)

International Covenant on Economic, Social and Cultural Rights (ICESCR)

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