



Background Paper

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ASEAN's Covid19 Recovery and the Nexus for a Green Economy in Climate Change Mitigation

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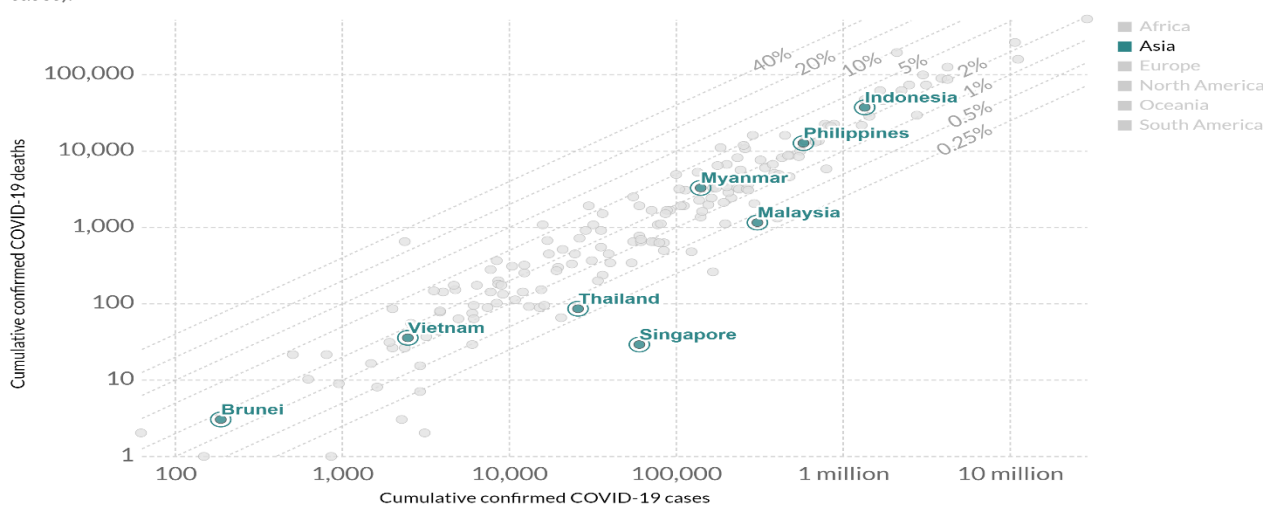
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1. Rational and Emphasis

Southeast Asia has a population of [\\$667.3 million USD in 2020](#), the third most populous economy, and is expected to grow to be the fourth largest economy by 2030. By then, the combined domestic consumption of all ASEAN member states (AMS), is estimated to be about 60 percent of its gross domestic product (GDP), and is expected to double to [\\$4 trillion USD](#) with a total population of 723 million. The current growth of the region is unavoidably based to a large part on natural resource exploitation, which are interlinked to economic, social and environmental changes. These challenges have been intensified by the unprecedented impact of global COVID-19 pandemics since early 2020, and the resulting uncertainty for AMS to reach their respective socio-economic goals as expected before the unprecedented crisis. Southeast Asia is not yet free from COVID-19 pandemic, which has impacted all sectors of social and economic development in the region. As of 05 March 2021, a total of 2,497,779 people were reportedly COVID-19 positive; and 53,960 people died (Annex 1) in the region. Among the AMS, Indonesia reported the highest cases followed by the Philippines, Myanmar and Malaysia (Figure 1) with enforcement of containment measures is still in place and the top priorities for the political agenda is recovery policy in the region.

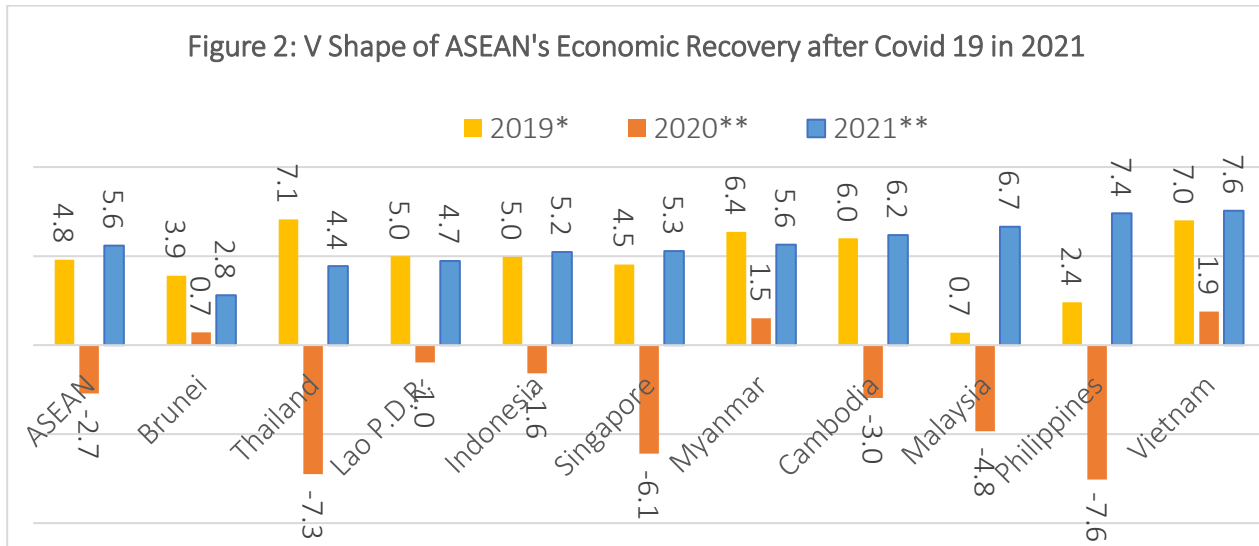
Figure 1: Cumulative Confirmed Covid-19 deaths vs Cases, 05 March 2021

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing. The grey lines show the corresponding case fatality rates, CFR (the ratio between confirmed deaths and confirmed cases).



Source: Johns Hopkins University CSSE COVID-19 Data - Last updated 6 March, 06:02 (London time), Our World In Data
OurWorldInData.org/coronavirus • CC BY

Combined GDP growth of ASEAN is estimated to contract from 4.5 percent in 2019 to an estimated - 2.7 percent overall in 2020 (Figure 2), with the respective lockdowns and cross-border travel restrictions leading to the loss of 235 million full-time jobs and pushing about 54 million people in Asia and the Pacific into poverty [1]. According to the ASEAN Secretariat in November 2020, COVID 19 has impacted informal workers across the region, ranging from 90 percent of the labor force in Cambodia to 11 percent in Malaysia [1].



* GDP 2019 is an average of [latest World Bank. \(2020\)](#), [Asian Development Bank. \(2020\)](#). And [International Monetary Fund \(2020\)](#).

** This GDP growth forecast is an average of the latest data of World Bank 2020, ADB (2020), IMF (2020) and [GlobalData Business Fundamentals \(2021\)](#)

The service sector, especially tourism related enterprises, have been hit harder than the manufacturing sectors according to ASEAN. Small- and medium-sized enterprises (SMEs), which account for an average of 97% of all enterprises and about 69% of the national labor force from 2010 to 2019, have suffered from this COVID-19 crisis so far. It is estimated that approximately 30 to 48 million workers will have lost their jobs in the COVID 19 period in 2020 [2,p.17]. In addition, the livelihoods of 218 million informal workers, who make up between 51 and 90 percent of the national non-agricultural labor force, have been destroyed by COVID 19 pandemics; they are more likely to be pushed into poverty [3,p11].

All AMS have authorized fiscal stimulus packages for several initiatives meant to manage the impact, and ensure post-COVID-19 recovery. Cambodia, Indonesia, Lao PDR, Myanmar, and the Philippines have borrowed a total of US\$6.7 billion from the World Bank, the Asian Development Bank (ADB), and the Asian Infrastructure Investment Bank (AIIB) to support their stimulus packages [4]. As of February 2021 AMS, have initiated several stimulus packages to manage the impacts and recovery from COVID-19 pandemics which consist of approximately 6 percent of GDP for fiscal stimulus and 3.7 percent of the GDP in 2020 for monetary stimulus (Annex 1). Among the AMS, Singapore reported the highest fiscal packages of up to 27 percent of its GDP followed by Thailand with 11 percent of GDP and Malaysia with 5.2 percent of GDP. By contrast, Vietnam reported the highest commitment to have up to 10 percent of GDP for monetary stimulus packages followed by Thailand and Singapore at 5.8 and 5.6 percent of their respective GDP in 2020.

Although the ASEAN region is not yet free of a COVID - 19 in March 2021(Annex 2), with the [rollout of COVID-19 vaccination](#), and increased governments' spending along with easing of monetary restrictions, all AMS are projected to have a V-shaped economic recovery in 2021 (Table 2). ASEAN may be one of the most active regional bodies seeking innovative and regionally coordinated solutions to the unprecedented challenges for a better recovery. The commitment of proactive policy coordination across the region is evidenced through establishment of [the COVID-19 ASEAN Response Fund](#), the ASEAN Comprehensive Recovery Framework ([ACRF](#)), the Regional Comprehensive Economic

Cooperation ([RCEP](#)) in November 2020, the ASEAN Travel Corridor Arrangement ([TCA](#)) Framework, the proposed establishment of [the ASEAN Centre for Public Health Emergencies and Emerging Diseases \(ACPHEED\)](#), as well as the development of the ASEAN Public Health Emergency Coordination System ([APHECS](#)). It is worth reflecting on the lessons learned from the effectiveness of the AMS's current responses to combat COVID - 19 pandemics. This is to highlight the strategy for building the capacity of the AMS for a better return to green growth and mitigate climate change by addressing the following four questions.

1. What nexus can be drawn from the Impact of COVID -19 and Climate Change?
2. What are ASEAN's COVID19 recovery strategies including resource mobilization for moving to a green economy in the context of climate change?
3. Is there an emerging ASEAN's commitment (e.g. budget mobilization and allocation strategy) compared to individual ASEAN countries to climate change mitigation for sustainable development in the post COVID - 19 era?
4. What should ASEAN parliaments do to support this priority commitment to mitigate or reduce the impact of climate changes for its sustainable development goal?

These research questions are addressed by reviewing relevant national and international reports, which are available online. The review will focus on the policy responses of ASEAN to mitigate or reduce climate vulnerability and stress; and its plans/policies post – COVID -19.

2. Nexus of COVID 19 and Climate Change

COVID-19, has similar cross border issues as climate change which cause serve damage to human health and economic losses. Recent studies suggest a strong link between COVID-19 and the environment and public health. Almost all known pandemics, including COVID-19, have been caused by animal microbes that spill over to humans because of contact with wildlife and livestock, especially in tropical forests where land-use change is prevalent [5,6,7]. Southeast Asia's fast-growing cities and accelerating deforestation and forest degradation make the region particularly susceptible to future pandemics.

The difference between the two is that, the impact of COVID-19 is rapidly expanding worldwide while transboundary impacts of climate risks or hazards take longer materialize and locally manifest such as regional and local damage by rising sea levels, floods, droughts, heatwaves, cyclones or storms, and forest-fires. The rapid spread of COVID-19 pandemics has dramatically changed the lives of billions of people around the world. Despite the relative slowness of initial responses, the virus has led countries to adopt drastic policy and legislative measures to cope. This contrasts with the uncertain approach of countries for addressing climate change, where both mitigation and adaptation measures have fallen short of averting an existential crisis for human civilization. It is no surprise that political and social action to contain the COVID-19 pandemic has received considerable attention from the citizens, and that [a considerable amount of research](#) has been rapidly published on it, with global [tracking records](#) of the live cases and impacts have been made [available online](#) for timely public attention and informing policy making. In addition, social media has also played considerable role in raising public awareness of COVID 19 pandemics and control measures. Such timely efforts of publishing information and the use of social media have increased political commitment to cope with the COVID 19 crisis, whereas information

regarding climate change and impacts could be more timely and publicly made available to attract political commitment.

Both COVID 19 and climate change have led to significant disruption of economic growth and loss of life, and the ways in which climate change and COVID-19 are interrelated have received limited attention and their interconnections are less clear regarding the impact on vulnerable and disadvantaged individuals, pushing some health-care systems to the maximum. The devastating impact has brought global attention on short-term greenhouse gas (GHG) emissions reductions, public health responses, and clean and green recovery response packages.

The difference between the two crises lies in combating the immediate effects of the COVID - 19 pandemic versus the long-term effects of climate change [8]. They require early understanding of the causes, mitigation responses and policy commitment which require more holistic and cooperative approaches to tackle the crises. The following six issues need to be taken into consideration. First, any delay in enforcing policy measures is costly, if not too late to address the crisis. Second, effective public support with strong political leadership is critical for early action and underestimating the damage has implications for support. Third, mitigation policies must be designed in a way that removes political and human discretion for sustainable development. Fourth, social and economic inequality may worsen by the impact of crises if mitigation policy action is not inclusive for the well-being of all citizens. Fifth, both crises are global problems that require multiple forms of national and international cooperation. Sixth, simplifying scientific discourse on climate change, as reflected in COVID 19 responses, should be published in a timely manner to raise public awareness and inform decisions; and strategically managed to protect people from misleading information. The current policy debate linking climate change and COVID-19 focuses on minimizing this economic damage and the challenges in ensuring the use of incentive packages for green recovery [9].

Learning from the policy challenges during the COVID-19 crisis could strengthen policy efforts and political commitment to contribute to greenhouse gas emission reduction and prepare people for future crises. Thus, it is worth reflecting on the best experiences in responding to the Global COVID -19 crisis as the lesson for effective climate change mitigation strategies to prepare for, cope with, and respond to future crises.

3. Green Growth Opportunities

ASEAN leaders recognize the challenges in regional resource-exploration and the evolution to green growth for climate change mitigation, and simultaneously achieving economic growth, reducing poverty, protecting the environment and improving citizens' well-being. If fully harnessed potential of the green economy could provide up to \$1 trillion USD in annual economic opportunities for Southeast Asia by 2030 [10]. This potential could be pooled from five transformative growth sectors to focus on job creation through boosting the adoption of cost saving innovation from efficiency improvements as pathways to increase competitive advantage for sustainability and the well-being of society in the post COVID-19 (Table 1). UNEP (2017) estimated a need for \$ 3,000 billion USD for green investments from

2016 to 2030 including 1,800 billion for infrastructure, 400 billion for renewable energy and 400 billion for energy efficiency, and 400 billion for food, agriculture and land use [11]. ADB (2021) estimates that

30 million jobs would be created if Southeast Asia could fully take advantage of the five green growth opportunities by 2030 (Table 1).

4. The Progress of Green Growth

AMS, however, have recognized these opportunities at different points in time for adjusting their respective development policies towards green growth. Singapore started its Green Labeling Scheme in 1992, while Myanmar is still in the early stages of policy formulation and implementation (Annex 1). Regardless of the reference points for policy consideration, AMS share common policy objectives for green growth (Table 2) and have integrated the green growth objective into their sectors of development for job-creation, efficient use of natural resources and protection of the environment for sustainable development. The critical challenges as noted in each country's related policies for climate change and green growth are to increase respective budgets and further build institutional capacity, across sectoral collaboration and across-sectoral coordination among the national and subnational key actors to support these policy objectives [12]. The collaborative approach to addressing these challenges is outlined in the AEC Blueprint 2025, with five interrelated and mutually reinforcing features, namely: (1) a highly integrated and connected economy; (2) a competitive, innovative and dynamic ASEAN; (3) increased connectivity and sectoral cooperation; (4) a resilient, inclusive and people-centered ASEAN; and (5) a global ASEAN [13]. The [Master Plan on the ASEAN Connectivity \(MPAC\) 2025](#) initiative is designed to boost cross-sectoral cooperation and collaboration with significant potential for socio-economic impact. The five strategic areas of MPCA include; (1) sustainable infrastructure, (2) digital innovation, (3) seamless logistics, (4) regulatory excellence, and (5) people mobility. However, the achievement of these strategic priorities within the sectoral policies and actions of each AMS has been hampered by the need for clearly defined "ownership" of MPAC initiatives, strengthening internal capacity, securing funding, lack of coordination, and a lack of incentives to support private sector action and engagement [14].

Slow progress has been made in addressing climate change as evidenced by the region's failure to meet [two-thirds of the sustainable development goals](#), with the severe degradation of Southeast Asia's low-carbon forests being one of the biggest concerns[15]. There is some good news about ASEAN's commitment to green growth for sustainable development, as evidenced by increasing policy attention

Table 1: 30 million job creation by 2030 from five green growth opportunities require more than \$ 172 billion USD worth of capital expenditure in Southeast Asia

Five Green Growth Opportunities	Annual capital expenditure required (\$ billion)	Total Job Creation in million
1. Clean energy transition	82.5	6.7
2. Circular economy models	54	6.6
3. Sustainable urban development and transport models	26.8	7.4
4. Productive and regenerative agriculture	6.9	6.5
5. Healthy and productive oceans	1.8	2.9
Total	172	30.1

Source: ADB. (2021). Implementing a Green Recovery.

[Online] Available at

<https://www.adb.org/sites/default/files/publication/684966/adb-brief-173-green-recovery-southeast-asia.pdf>. (accessed on 25 March 2021)

(Annex 1 and Table 2), but limited budgets for implementing those policies remains a critical part of realizing the commitment.

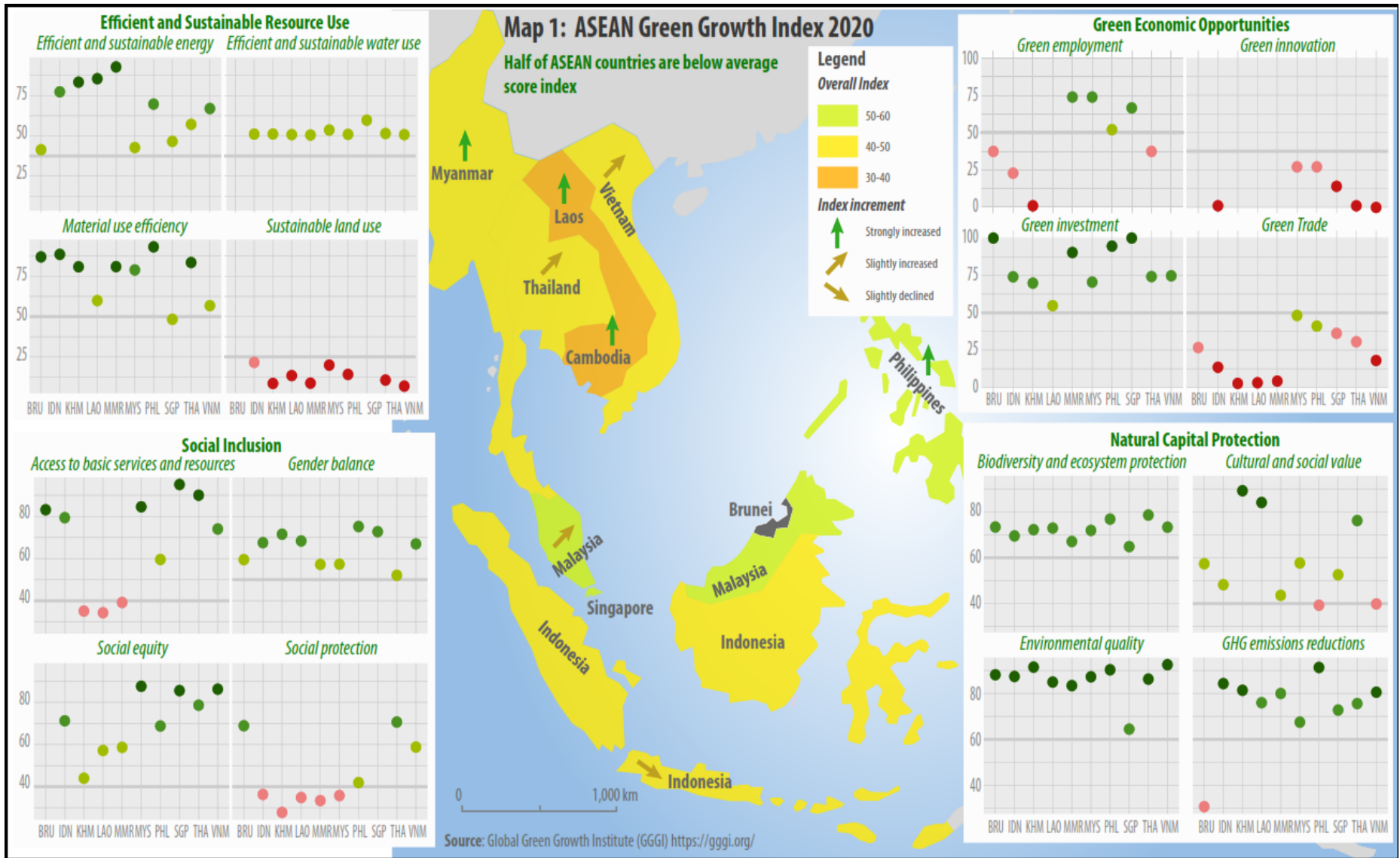
Table 2: Green growth objectives in ASEAN countries' national development plans

	Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippine	Singapore	Thailand	Viet Nam
Resilience to natural disasters/adaptation to climate change	Marginal*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sustainable forest and land management	Forest*	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Renewable energy	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Air pollution, water pollution and waste	Waste**	Water	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Energy security	Yes**	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Food security	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Sustainable fossil fuel and minerals extraction	No	No	No	Yes	Yes	Yes	Yes	No	Yes	Yes
Green technology	Yes	Marginal	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Energy efficiency	Marginal**	No	Yes	Marginal	Yes	Yes	Yes	Yes	Yes	Yes
Climate change mitigation	No	No	Yes	No	Yes	No	No	No	No	Yes

Source: OECD (2014), Towards Green Growth in Southeast Asia, OECD Green Growth Studies, OECD Publishing. <http://dx.doi.org/10.1787/9789264224100-en>

* Climate change adaptation and disaster risk reduction are not explicitly mentioned in the long-term economic development plan Brunei Vision 2035 or Wawasan 2035. **In Wawasan 2025, the government's long-term Vision for the Economy, emphasis is placed on the importance of "an environmental strategy that ensures the proper conservation of our natural environment and cultural habitat" together with an assertion that Wawasan 2035, fully relies on such conservation

The achievement of AMS's green growth is highlighted by Global Green Growth Institute ([GGGI's 2020](#) report indicating the trends of the Green Growth Index (GGI) of 115 countries between 2015 and 2019; and which can be summarized in Map 1. This GGI 2020 covers 16 sub-indicators grouped into four main indicators including; (1) efficient and sustainable resource use, (2) natural resource protection, (3) green growth opportunities, and 4) social inclusion for measuring the green growth performance towards the achievement of sustainable development goals; and can be used for policy making for the green recovery in post COVID - 19. At least half of the 10 ASEAN member countries are characterized as moderate performers with Singapore achieving the highest index score of green performance followed by the Philippines and Malaysia among AMS in 2019.



Other AMS, with the exception of Indonesia, have shown remarkable progress in GGI scores between 2005 and 2019 (Map 1). Despite this progress, greater efforts and political commitments are needed to improve green economic opportunities for sustainable growth and development in the region.

The ASEAN Comprehensive Recovery Framework (ACRF) and its implementation plan in December 2020, require strong political leadership from the AMS to align their recovery plans with the SDGs to make them more socially and economically resilient to not only future pandemics, but also persistent global environmental challenges. This ACRF consolidates exit strategies following the COVID-19 crisis; it provides an overview of the ASEAN response at different stages of recovery by focusing on the key sectors and segments of society most affected by the pandemic, outlining broad strategies and identifying measures for recovery in line with sectoral and regional priorities and SGD targets.

As the pandemic is still evolving, the approach to recovery should be proactive and comprehensive (community-wide), flexible and agile so that the region can easily adapt its strategies to changing conditions. The challenge for 2021 and beyond is to mobilize financial resources to support the rapid recovery of small and medium enterprises and the tourism sector for new green job creation to address both the job loss and growing workforce in the region. This recovery will also require resilient social protection systems for the most vulnerable, including the informal sector of the economy that is largely composed of women.

The ACRF provides an opportunity to promote green growth that the AEC's Blueprint 2025 envisioned, and the chance for ASEAN to build back better and cleaner. One of the promising signs for green growth is the e-commerce boom across AMS, despite the need for coordinated policies and regulations to ensure the quality of these services, which will sustain, to a certain degree, the green growth momentum in this region post COVID - 19. The challenges in sustaining growth are in the area of retraining for strengthening and reskilling the labor force to ensure that no one is left behind in the process of increasing regional and global connectivity. A few strategic directions for green recovery from the COVID-19 crises besides strengthening the resilient health system, the ASEAN governments have laid out a number of policy commitments:

1. The 38th ASEAN Ministers of Energy Meeting (AMEM) held virtually on November 19, 2020 and hosted by Vietnam, endorsed the APAEC Phase II: 2021-2025, retaining the same theme of “Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability and Sustainability for All”. A sub-theme was added: “Accelerating Energy Transition and Strengthening Energy Resilience through Greater Innovation and Cooperation.” Under this, ASEAN energy ministers agreed to set a target of 23% share of renewable energy in total primary energy supply in the region and 35% in ASEAN installed power capacity by 2025. This would require approximately 35GW-40GW of renewable energy capacity to be added by 2025[16].
2. The Digital Master Plan 2025 is a framework to enable AMS to work together to become a leading digital community and economic bloc, powered by secure and transformative digital services, technologies and ecosystems [17]. This will support the e-commerce boom during the COVID - 19 pandemic and beyond. COVID - 19 has increased internet users from 360 million in 2019 to 400 million in Singapore, Malaysia, Indonesia, Thailand, Vietnam and the Philippines in 2020. As of 2020, about 70% of the population of Southeast Asia is now online;

and more than 1 in 3 consumers of digital services have started using the service as a result of COVID-19 [18]. During COVID - 19, digital or e-commerce was a resilient activity with steady growth [19].

Policies are first and foremost, but real commitment must be shown by increasing the financial resources for their implementation. Given the experience of fighting pandemics, an incentive packages to address the impacts of climate change must be prepared in advance to respond effectively, while financial incentives must be used to promote green investments. AMS have been extending their stimulus packages for coping, and recovery in the post COVID-19 period (Annex 3).

5. Mobilizing Financial Resources for Implementing Green Growth Policies

For promoting green growth, ASEAN will need US\$200 billion in green investment annually from 2016 to 2030, the nation of a 400% increase from annual supply of green finance in 2018 [11]. Two countries in the region played a leading role in mobilizing financial resources to support their climate resolutions and green growth policies in the region, including Singapore's [green bond schemes in 2017](#) and introduction of [a carbon tax](#) in 2019 and Indonesia raising of \$1.65 billion USD in its first Asian green government bond sale in 2018. Thailand will implement corporate income tax deductions, as part of its stimulus packages, until the end of 2021, and a 50 percent CIT exemption on profits for an additional three years for businesses involved in the digital economy including the utilization of software integration, artificial intelligence, big data analytics, or machine learning programs [20]. Given this, decline in government revenue due to [tax exemptions](#) is a major concern for some countries in Southeast Asia to mobilize local financial resources for achieving the green growth objectives noted in Table 1. In April 2019, ADB committed to mobilize more than [\\$1 billion USD](#) for green infrastructure investments in sustainable transportation and clean energy across the region. This funding support included \$75 million USD from the ASEAN Infrastructure Fund (AIF), \$300 million USD from the ADB, \$336 million USD from KfW, 150 million euros from the European Investment Bank, and 150 million euros from Agence Francaise de Development. AIF has since committed \$520 million USD for regional energy, transport, water and urban infrastructure projects.

In addition, ASEAN, in cooperation with the ADB, set its green bond standard in 2017 [21] and as of 2019 had raised approximately \$13.4 billion USD through the sale of green bonds to address climate change, built capacity to implement climate and disaster resilient plans, and improved environmental sustainability. Six of the ten ASEAN countries (including Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam) are now active in the international green finance market [22]. In just a few years, green bond issuance in ASEAN countries is growing in terms of the cumulative amount of sales and increasing the number of countries adopting this initiative to mobilize financial resources to implement their climate change and green growth policies. In 2019, Singapore raised \$6.20 billion USD (mainly through green loans), followed by Indonesia with \$2.88 billion USD and the Philippines with \$2.02 billion USD, Malaysia with \$1.34 billion USD, Thailand raised \$947 million USD and Vietnam with \$27 million USD [23]. The key sectors are buildings (34%), energy (33%) and transportation (12%), the three sectors with the highest investment prospects for green bonds in Southeast Asia (Table 3). Besides the stimulus packages noted in Annex 1, there is no information on government budget allocation in ASEAN countries for supporting climate

change and green growth policies. Other countries in the regions are getting support from GGI and other development partners to receive financial support for implementation of their climate change and green growth policies. The success of the green bond initiative will eventually provide good lessons learned for other ASEAN countries.

6. Role of Parliament

Parliament has an important role to play in ensuring that the Executive is held accountable for coherent and inclusive sectoral alignment of the ASEAN Framework for Climate Change and Green Growth and for implementation by the agencies responsible for the policies. As lessons are learned from the impacts of climate change and COVID - 19, it is critical to increase public awareness of issues related to climate resilient and green growth policies. Strong political leadership and ownership of the response to COVID -19 has led to effective civic participation in controlling COVID -19 but to a lesser extent in implementation of climate change resilient policy frameworks. Effective coordination is required at both national and international levels of commitments to mobilize resources to build capacity for policy implementation. As was the case with COVID- 19, an early warning system for climate change and informed all green growth intensive policies is required for effective green growth recovery, especially regional and national green growth frameworks.

Figure 3: Buildings and Energy Present Majority of Interments

Buildings	34%
Energy	33%
Transport	12%
Water	8%
Waste	5%
Land use	3%
Industry	0.2%
Unallocated adaptation and resilience	5%

[Source: ADB \(2019, p4\)](#)

Parliaments can play their role more effectively if they are informed about the issues through a well-designed monitoring system. They can then set national and regional priorities, in particular encouraging private sector involvement and political leadership and ownership for both climate change and green growth policies, as elaborated in Annex 1. This, in particular, can be used to increase the budget for coordination bodies, as indicated in all regional and national legislative and policy frameworks to support institutional capacity building, green technology adoption for achieving renewable energy targets, and digital transformation for green job creation. While the sectoral alignment of ACRF into the national priorities of recovery is important, it is vital for AMS to take advantage of green opportunities, innovative technology for efficient use and further build resilient social protection for the most vulnerable and informal groups noted in Map 1. ASEAN parliaments therefore play a crucial role in mobilizing resources to support climate action and sustainable policies of ASEAN countries, through, among others:

- The ASEAN Comprehensive Recovery Framework adopted at the 37th ASEAN Summit in November 2020 outlined several measures that are focused on sustainability, they could however include measures that are more targeted towards climate change mitigation and adaptation.
- The inclusion of financial incentives and capacity building for businesses, particularly micro, small and medium enterprises (MSMEs) that contribute towards a low-carbon economy.

- The inclusion of tangible initiatives to incentivize carbon emissions reduction in the transport industry, especially for aviation companies.

7. Conclusion

The COVID-19 pandemic has changed the lives of people across the globe. Social and economic development has been severely impacted by COVID -19 which put millions of people at risk of falling into poverty. Even with policy responses to this unprecedented crisis since 2000, the Southeast Asia region is not yet free from COVID - 19. ASEAN member states have committed to have all people vaccinated and pledge to build back better in the post COVID -19 period. People in Southeast Asia are beginning to learn to live with this while pushing for a more resilient health service and social safety protection.

The global COVID -19 pandemic provides important lessons for policy makers to protect their citizens from pandemics and initiate stimulus packages to support the affected people and firms to enable them to return to normal post COVID - 19. Implementing a green recovery is a suitable option for ASEAN member states since Southeast Asia is one of the most vulnerable regions to climate change and experiences an increased impact of extreme climate events. Climate change may indirectly affect the COVID-19 response by undermining health facility and placing additional stress on health systems. Most emerging infectious diseases and nearly all recent pandemics have originated in wildlife [6]. Evidence suggests that increasing human pressures on the natural environment may promote disease emergence [7]. Despite experiencing negative growth as the result of COVID-19, ASEAN has arrived at a critical turning point activated by the pandemic for economic and environmental restructuring to take advantage of the potential opportunities of green growth for a more resilient economy and sustainable development.

Like other developing regions, ASEAN's efforts to promote a resilient and eco-friendly economic growth and development environment has been largely put on hold by COVID-19 and most ASEAN countries have yet to take full advantage of green opportunities. The encouraging responses to COVID - 19 in ASEAN suggest that political leadership and ownership of policy enforcement are important for effective commitment and cooperation from government, civil society and the private sector for moving forward to adopt environmental and digital technologies for sustainable growth and development.

ASEAN parliaments require scientific and evidence-based information to support their functions to make sure that national and regional efforts take full advantage of the green growth potential to become more resilient to climate change. In addition, the role of parliament in mobilizing resources to support the adoption of green technology for the achievement of renewable energy targets, and digital transformation for the creation of green jobs in all sectors is critical for a better return to normality.

Annex 1: AMS's Stimulus Responses to Global COVID-19 Pandemics

	<u>COVID-19</u>		Stimulus Measures 2020*										<u>Economic stimulus response to COVID 19</u>		
	Confirmed cases	Deaths	Overall fiscal measures (Billion USD)	Month of Authorization	Health System Measures	Income	Tax concessions	Other expenditure measures	Loan to business	Subsidies to businesses	State loan guarantees	Fiscal policy package (% of GDP)	Monetary stimulus package (% of GDP)	As of (M/D/YYYY)	
	As of 05/03/2021														
World	115,768,386	2,571,881													
Indonesia	1,368,069	37,026	81.84	February – May	X	X	X		X			4.4	3.2	2/4/2021	
Philippines	587,704	12,423	77.00	March -June	X	X		X	X	X		3.3	2.2	1/7/2021	
Malaysia	310,097	1,159	68.50	February – June	X	X	X	X	X	X	X	5.2	5	2/4/2021	
Myanmar	142,000	3,200	0.44	March–June	X	X			X	X		1.5	0	2/4/2021	
Singapore	60,007	29	65.03	February - July	X	X		X	X	X		27.1	5.6	2/4/2021	
Thailand**	26,241	85	88.80	March–April	X	X	X	X	X	X		11	5.8	2/4/2021	
Vietnam	2,494	35	14.76	March –April	X	X	X	X	X	X		4.2	10.1	2/4/2021	
Cambodia**	932	0	1.16	March - April	X	X	X	X		X		2.7	2.2	2/2/2021	
Brunei**	188	3	0.32	March	X		X	X	X	X		0.2	3	2/4/2021	
Lao PDR**	47	0	0.01	March	X		X		X	X		0.1	0.1	2/4/2021	
All AMS	2,497,779	53,960	397.9									6.0	3.7		

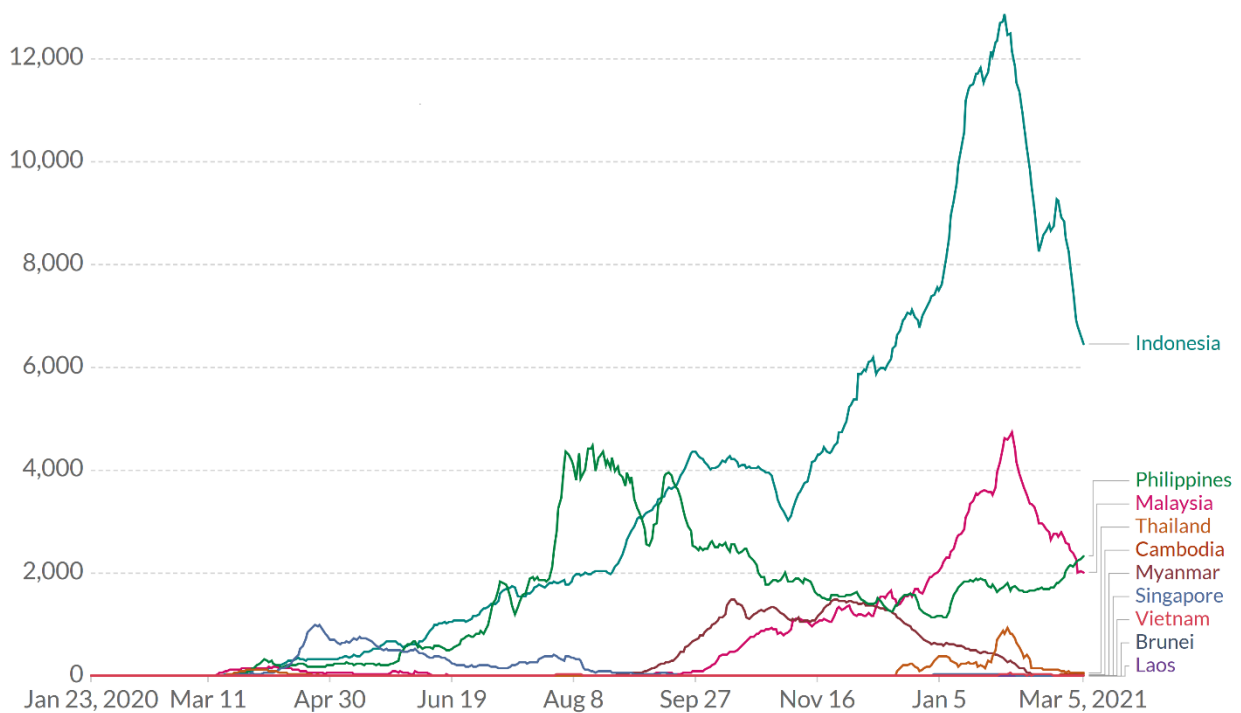
Source: *

[Melinda M., Seah S. \(2020.p3-5\). Are ASEAN Stimulus Dollars Going towards Sustainability? \[Online\] available at https://think-asia.org/handle/11540/12372 \(accessed on 12 February 2021\).](https://think-asia.org/handle/11540/12372)

** Stimulus packages of Brunei, Cambodia, Laos and Thailand are adjusted with updated information available of online access.

Annex 2: Daily New Confirmed Covid-19 Cases

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



Source: Johns Hopkins University CSSE COVID-19 Data – Last updated 6 March, 10:02 (London time)

Annex 3: National ASEAN Environment Strategies vary in their focus on green growth

AMS' National Green Growth Strategy

Brunei

In early 2021, Brunei Darussalam's Ministry of Finance and Economy launched the Economic Blueprint for Brunei Darussalam (2020) to support the third goal of Wawasan Brunei 2035 in 2007, which aims to achieve a dynamic and sustainable economy. The priority of Vision 2035 is to ensure the well-being of people and the plan includes ensuring a clean, green and healthy environment for every citizen. To support this vision, the Blueprint specifically provides 6 clearly defined aspirations with more than 30 policy directions. The strategic priorities of Aspiration 4, "Sustainable Development," advocate for.

- Promote preservation of environment by ensuring our natural assets and resources are well-preserved.
- Promote economic growth through green growth initiatives and sustainable Blue Economy.
- Investing and promoting sustainable businesses and technology not only to increase productivity but also to conserve the environment.

Brunei is also a key member of the "Heart of Borneo" Initiative, a trilateral forest conservation agreement signed with Malaysia and Indonesia to preserve and protect its remaining unique

ecosystems. The initiative will further ensure the best sustainable forestry practices in the country.

Cambodia

Cambodia was one of the first countries to begin developing a [National Green Growth Roadmap in 2009](#), supported by the GGGI, which proposed different short, medium- and long-term pathways to a green economy and emphasized the importance of access to renewable energy and sustainable land use. In 2013, [the National Strategic Plan for Green Growth \(NSPGG\) 2013-2030](#) and the [National Policy for Green Growth \(NPGG\) 2013-2030](#) were published, as a continuum. The strategy is in effect until 2030, and is coordinated by the National Council for Sustainable Development (NCSD). The NSPGG broadly incorporates nine sectors, namely: (1) green investments and green job creation, (2) green economic management, (3) blue economy, (4) green environment, and natural resource management, (5) human resource development and green education, (6) effective green technology management, (7) green social safety system, (8) protection of green cultural heritage and national identity, and (9) good governance of green growth. These nine policy directions have been integrated into a wide-sectors policy and action plan. As a continuum of alignment, the [Climate Change Strategic Plan \(CCCSP\) 2014-23](#) aims to move towards a green, low-carbon, climate-resilient, equitable, sustainable and knowledge-based society. The [National Strategic Development Plan 2019-2023](#) prioritizes: (1) green and science and technology development, (2) promoting the Green City Strategic Plan in urban areas, (3) green energy projects, especially the community-based energy sector, (4) intensifying the mechanism of green villages and communes through international cooperation with neighboring countries, and (5) establishing a logistics policy such as management of goods in the Green Logistics Temperature Management Chain.

Indonesia

The Indonesian government has set goals to reduce greenhouse gas emissions with the following targets (IRENA 2017): (1) 29% reduction in greenhouse gas emissions by 2030 compared to a business-as-usual scenario; (2) renewables to provide 23% of total primary energy supply by 2025, and 31% by 2050; (3) 6,400 MW of solar and 1,800 MW of wind by 2025.

- Indonesia raises [\\$1.65bln](#) in first Asian sovereign green bond sale in February 2021
- The Bank of Indonesia issued Green Lending Model Guidelines for Mini Hydro Power Plant Projects, and Government Regulation on Social and Environmental Responsibility of Limited Liability Companies in 2012 [\[20\]](#)
- OJK (Financial Services Authority issued a Roadmap for Sustainable Finance in Indonesia 2015-2019 in 2014, and a Framework and Regulations for Green Bond Issuance in 2017 [\[20\]](#)
- Directorate General of Budget Financing and Risk Management, Ministry of Finance issued a Green Bond & Green Sukuk Framework in 2017 [\[20\]](#)
- Environmental Protection and Management Law (2009)
- National Action Plan Addressing Climate Change (RAN MAPI) (2007)
- Indonesia Climate Change Sectoral Roadmap (2009)
- Cleaner Production (2003) (5R initiative: rethink, reuse, recycle, recovery, reduce)

- Eco-products directory and Green Industry Award (2010)
- The National Action Plan for Greenhouse Gas Emissions Reduction (RAN GRK) (2011)

Lao PDR

The [Lao PDR National Green Growth Strategy to 2030](#) was endorsed in December 2018, as a continuum of the Lao PDR Climate Change Strategy (2010) and the Cleaner Production Program (2010). This first NGGS was developed with technical support from GGGI to support the success of The National Assembly of the 8th Legislature which had approved Vision 2030, and as the reflection of the 8th Five-Year Plan for National Socio-Economic Development (2016- 2020). This NGGS focuses on: (1) encouraging and promoting economic growth and poverty reduction in a comprehensive, inclusive and fair manner, allowing all persons in the society to receive the benefits from such development; (2) raising the efficiency and effectiveness of the utilization of limited natural resources of the country to ensure optimal benefits; (3) economic growth that is clean and environmentally-friendly and that decreases waste and greenhouse gas emissions; and (4) increasing the economic resilience to climate change, natural disasters and of global economic uncertainties. A [World Bank Loan of USD 38.6 million](#) 2017 to 2021 is used for the development and implementation of the NGGS.

Malaysia

Several policies and regulations have been issued in the past 12 years to address climate change and green growth which have been adopted across sectors for efficient use of natural resources and reducing GHG emissions and promoting green growth. The policy, regulatory and institutional framework, but not limited to the list, are set out below:

- Securities Commission issued RI Sukuk Framework in August 2014 and Tax Deduction on the Issuance Costs of SRI Sukuk 2017-2020, and Tax Exemption for Recipients Under the Green SRI Sukuk Grant Scheme, 2018-2020 [20]
- Capital Markets Malaysia issued Green Bond Grant Schem in July 2017 and Green SRI Sukuk Grant Scheme in January 2018. [20]
- *National Policy on Climate Change (2009) and National Green Technology Policy (2009) which various programs have been implemented to promote the application and development of green technology including the establishment of the Green Technology Financing Scheme in 2010. The Scheme which was available until 31 December 2017 or upon reaching a total financing approval amount of RM3.5 billion whichever is earlier, facilitates the growth of local green businesses and generates new markets and job creation*
- *Establishment of the National Disaster Management Agency*
- *Establishment of the National Committee on Waste Management*
- *Establishment of the Planning and Development for Environment Statistics Committee*
- *Establishment of 3 committees on Government green procurement*
- *Launching of the Green Technology Master Plan, 2017-2030, in 2017*
- *Formulation of government green procurement long term action plan*
- *Launching of the National Policy on Biological Diversity, 2016-2025, in 2016*
- *Access to Biological Resources and Benefit Sharing Act 2017 (Act 795) passed by Parliament*
- Monitoring and evaluation mechanism includes: (1) Establishment of the Green Economy Indicators Malaysia, (2) Establishment of the Roadmap for a System of Environmental-Economic Accounting (MySEEA), 2016-2020, (3) Completion of MySEEA Water Account and Physical Supply and Use Table for Energy in 2017

- **Sustainable financing mechanism including: (1)**
 - *Tax incentive for green projects approved under Promotion of Investments Act 1986 and Income Tax Act 1967*
 - *83 renewable energy solar projects with a total investment of RM652.8 million*
 - *6 renewable energy biomass projects with a total investment of RM344 million*
 - *11 recycling projects with a total investment of RM979 million*
 - *2 integrated waste management projects with total investment of RM382 Million*
 - *Financing from green sukuk - The first green sukuk launched with an initial value of RM250 million in 2017, with an additional issuance of RM1 billion*
 - *Green Technology Financing Scheme (GTFS) - 94 projects received financing support under GTFS during the review period, amounting to RM1.1 billion, in addition to 225 projects amounting to RM2.5 billion between 2010-2015*
 - *A total of RM8.5 billion has been allocated for the Green Technology Financing Scheme up to 2022.*
 - *in 2010, the Green Technology Financing Scheme, under which the government provides a 60% guarantee of the loan amount and a rebate of 2% on interest charged by financial institutions for all qualifying projects*

Myanmar

Myanmar is at the initial stage of green growth as it noted by [WWF \(2017\)](#). The 2009 National Sustainable Development Strategy provides a framework for integrating environmental considerations into future national development plans. The 2015 National Biodiversity Strategy and Action Plan (NBSAP) has reinforced environmental sustainability. The environmental policies include Agenda 21 (1997), the National Code of Practice for Forest Harvesting (2000) and the National Water Policy (2014).

Since opening its economy, Myanmar has committed to implementing the SDGs, including SDG 12, and has begun to localize them for implementation. Despite the relatively low awareness of the SDGs among the government, NGOs and academic staff, several initiatives have been undertaken to support industrial energy efficiency with support from the Global Environment Fund. The SME Development Law (2015) has promoted SME development. Green financing for SMEs has been made available through the Central Bank of Myanmar, the Small and Medium Industrial Development Bank, Myanmar Insurance, and international organizations. WWF assisted in the development of [a strategic framework for the green economy in 2016](#). Following on from Myanmar's [Intended Nationally Determined Contribution \(INDC\)](#) submission to UNFCCC in 2015, Myanmar designed a Myanmar [Climate Change Strategy & Action Plan \(MCCSAP\)](#) 2017-2030, with six sectoral action plans. These provide a roadmap to guide Myanmar's strategic responses to address climate-related risks and opportunities over the next 15 years and beyond.

Cooperation with the European Union has continued for over more than a decade to promote the shift to sustainable consumption and production through SWITCH-Asia utilizing the Grants Program, which, since 2010, has made possible five projects, aimed at energy efficiency, environmental management, resources efficiency in the textile industry and logistics sector.

<p>Philippines</p> <ul style="list-style-type: none"> - Philippine Agenda 21: A National Agenda for Sustainable Development for the 21st Century (1996) - National Framework Strategy on Climate Change 2010-22 - National Climate Change Action Plan 2011-28 - Piloting Eco-Town Framework Project Phase 1 in the Municipality of San Vicente, Palawan, (2012 – 2015). This project was supported by the GGGI. - Promotion of green economic development in 19 provinces to build the capacity of small or medium-sized enterprises (MSMEs) in tourism. This project was supported by GIZ from 2013-2016.
<p>Singapore</p> <ul style="list-style-type: none"> - Monetary Authority of Singapore (Central Bank) issued a Green Bond Grant Scheme in June 2017, and Sustainable Bond Grant Scheme in 2019 [20] - Singapore announced a carbon tax and a carbon pricing scheme in 2019 - Singapore Sustainable Development Blueprint (2009) - National Climate Change Strategy (2012) - Singapore Green Labelling Scheme (1992)
<p>Thailand</p> <ul style="list-style-type: none"> - National Strategy on Climate Change 2008-12 - Thailand Climate Change Master Plan 2012-50; National Strategy on Climate Change 2013-17 - Bioplastics Investment Incentives (2013) in Manufacturing for export with Tax incentives - Thai Green Label (1993) in the industry sector through Eco-labeling
<p>Viet Nam</p> <ul style="list-style-type: none"> - <i>National Green Growth Strategy for the period 2011-20 with a vision to 2050</i> - <i>National Action Plan on Green Growth for the Period 2014-20</i> - Law on Environmental Protection (2014) - The Prime Ministers Decision No.18/2007/QD-TTg of February 5, 2007, approving the strategy on development of Vietnamese forestry till 2020 - Sustainable Development Strategy for 2011-20 - National Strategy on Climate Change for 2011-20 - Pilot Policy for Payment for Forest Environmental Services (2008)

Notes:

- Brunei Darussalam’s medium-term National Development Plan was not available online, hence it has not been reviewed as part of this exercise.
- b. Singapore does not have a medium-term national development plan, but it does have sectoral strategies.

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