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Green Recovery in Post-COVID-19 Southeast Asia?

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The COVID-19 pandemic has inflicted unprecedented economic damages across the globe. Amidst rigorous efforts to manage immediate issues like job losses and business displacements, low-carbon proponents have begun to make calls for a green recovery. In Southeast Asia, an intentional shift towards a green recovery seems unlikely. This is because governments fall back on existing development plans as the basis for economic recovery strategy. As green agenda has been weakly integrated in existing development plans, the progress of climate mitigation in Southeast Asia is likely to remain slow and mixed at best, with a possibility of it getting weakened because of a strong focus on the economy after the pandemic. This development thus highlights the continuing challenges in implementing green growth ideals as the main strategy in addressing climate change.



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Introduction

The world is on a race to keep global warming below 1.5°C by the end of the century. With only about ten years left to reduce emissions by 7.6 percent every year to meet the target,¹ the arrival of COVID-19 pandemic is widely perceived as a golden opportunity for countries to favour green growth in their recovery responses.

This Insight examines the likelihood of a green recovery in Southeast Asia. It looks at how climate action, particularly mitigation measures in the energy sector, are treated in recovery responses in Southeast Asia. Experiences in Indonesia, Malaysia, the Philippines, Thailand and Singapore are chosen as case studies considering their ongoing low-carbon transition projects before the pandemic, and their governments' recent pronouncements on how the economies may proceed forward after the pandemic. A green recovery pathway would expect countries to make stronger commitments towards reducing emissions that include, among others, phasing out fossil fuel-based power plants, increasing renewable energy targets, and placing environmental conditions on high-carbon sectors.

Despite the criticality of green growth in the climate race, observations made on these countries suggest that a green recovery is unlikely to be the case in Southeast Asia. This is because governments' recovery responses are heavily focused on economic growth, which has been weakly linked to the green ideals needed to achieve the 1.5°C limit. As such, the progress of green agenda in the region is likely to remain slow and mixed at best and may even get weakened because of a strong focus on the economy after the pandemic.

The study serves as an important review of the practicability of green growth as the dominant strategy in addressing climate change. With a closing time window to reach the 1.5°C target, it thus provides a point for reflection of the possibility of pursuing alternative means to keep the rise of world's temperature within the stipulated limit. In the case of developing countries in Southeast Asia, this may mean eschewing the current linear production-consumption model and urgently implementing circular economy, strengthening the waste management sector, and enforcing environmental laws consistently.

¹"Cut Global Emissions by 7.6 Percent Every Year for Next Decade to Meet Paris Target – UN Report," United Nations Climate Change, last modified November 26, 2019, <https://unfccc.int/news/cut-global-emissions-by-76-percent-every-year-for-next-decade-to-meet-15degc-paris-target-un-report>.

The Unlikely Green Recovery Pathway in Southeast Asia

There is no single definition of green growth,² but there is one common principle behind it. In essence, green growth envisions continuing economic growth while being friendly to the environment. Although green growth can be pursued through a wide range of measures such as the use of biofuels and cleaner coal, carbon tax, improved agriculture practices, reforestation, among others, the dominant strategy in green growth is the decoupling of economic growth from carbon emissions and material use through the application of technology. A special emphasis is given to interventions in the energy sector, which is the single largest contributor to greenhouse gas emissions, and consequently, to climate change. This is evidenced in low-carbon technologies such as electric vehicles and wind and solar power that are developed to replace conventional high-carbon counterparts, and in other technological advancements aimed at increasing efficiency and recyclability.

Making economic growth environmentally friendly, however, is not the main reason behind the push for green growth. More importantly, green growth serves as a principal solution to address climate change. Positioning green growth within climate change context sets it on a timescale. This is because the world only has ten years until 2030 to reduce emissions by 7.6 percent every year to achieve 1.5°C Paris target.³

The shortening time window leads to a narrowing range of options deemed favourable for green growth. This is manifested in a heightened pressure to go 100 percent renewables,⁴ which may be very challenging if not impossible to attain, and an increasingly hostile attitude towards anything carbon. Demands to completely phase out coal plants and rapidly switch them to wind and solar plants are among the most common examples. Others include calls to end fuel subsidies, increase carbon taxes, introduce electric vehicles, impose conditions for the aviation sector, and build low and zero-energy buildings. To put it simply, green growth in its present form is tantamount to a commitment to electrify the economy and decarbonise the energy sector, in support of economic growth.

Southeast Asia

Prior to the COVID-19 outbreak, countries in Southeast Asia had embarked on various climate mitigation measures. These included renewable energy development. When the pandemic hit the region, solar and wind energy businesses were affected by the restrictions on movements of goods and people that governments imposed as a response to the health crisis. This has resulted in ongoing projects getting halted, call for tender and commencement of new projects getting delayed, and costs soaring up due to fluctuating foreign exchange rates, among others. The economic downturn has also

² A non-exhaustive list of definitions is as follow:

- a) The OECD defines green growth as “fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies” (Organisation for Economic Cooperation and Development (OECD), *Towards Green Growth* (Paris: OECD, 2011), 4);
- b) The World Bank defines green growth as “growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters” (World Bank, *Inclusive Green Growth: The Pathway to Sustainable Development* (Washington, DC: World Bank, 2012), 2);
- c) UNEP uses the term green economy and defines it as “one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.”(United Nations Environment Programme (UNEP), *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – A Synthesis for Policy Makers* (Nairobi: UNEP, 2011), 1).

³“Cut Global Emissions by 7.6 Percent Every Year for Next Decade to Meet Paris Target – UN Report,” United Nations Climate Change, last modified November 26, 2019, <https://unfccc.int/news/cut-global-emissions-by-76-percent-every-year-for-next-decade-to-meet-15degc-paris-target-un-report>.

⁴ See for example: “The Global Price Tag for 100 Percent Renewable Energy: \$73 Trillion,” Yale Environment 360, last modified December 20, 2019, <https://e360.yale.edu/digest/the-global-price-tag-for-100-percent-renewable-energy-73-trillion>.

global oil price that has plummeted due to low demand and oversupply is likely to pose a stiff competition against renewables. During such time, governments responded with stimulus measures that primarily aimed at stabilising the economy and assisting affected population and businesses. Since the economic hardship upset almost all sectors, government incentives did not necessarily give renewable energy sector a preferential treatment.

The present climate race, however, does not halt with the arrival of the COVID-19 pandemic. Climate change potentially increases the frequency and intensity of flooding, typhoons, landslides, among others, and their implications on food security, livelihoods, and social stability, continue to pose a major risk in the region. Although pandemic lockdowns have slowed down economy activities and are consequently projected to result in up to 7 percent drop in carbon emissions this year,⁵ such a drop is unlikely to sustain when economies get back on their feet again. Choosing a green recovery pathway, which essentially entails sweeping investment shifts to low- or zero-emission technologies and infrastructure across multiple sectors,⁶ is therefore seen as a plausible way for countries to get on track to meeting 1.5°C Paris target.

As restrictions are easing and economies are opening, governments are beginning to unveil their economic recovery plans. So far, no government in Southeast Asia has made an explicit pronouncement of making *extra* and more determined efforts towards the electrification and the decarbonisation of the economies *beyond* what are already in the pipelines. For example, no government has made plans to decommission fossil fuel-based power plants, place environmental conditions on the aviation sector, or increase renewable energy targets as part of their recovery strategies. These are an indication of an unlikely green recovery pathway in the region.

A lack of motivation to strengthen green agenda in recovery plans could result from the pandemic having rather a distant relation to and implications for the climate. Conversely, the health crisis has clearly brought devastating impacts on the economy. It taught about the volatility of a globalised market and the need to expand digitalisation. Governments thus focus heavily on economic recovery and fall back on existing development plans as the basis for recovery. Increasing economic sufficiency is the main aspiration especially in countries that can still expand their domestic markets. Given such responses, unless green agenda was already integrated meaningfully in countries' growth plans prior to the pandemic, governments are unlikely to purposefully pursue a greener recovery trajectory after the pandemic.

Take for example the green deals adopted in the European Union (EU) and South Korea. The EU is the world's leader for climate causes. Its €1824.3 billion (SGD 2952.83 billion)⁷ recovery budget, which includes plans to *increase* climate-related investments, came on the heels of the European Green Deal that had been proposed in late 2019⁸ way before the virus hit Europe. Thus, it was not the pandemic that gave rise to green recovery pathway in Europe. Rather, it is a continuation of what had been there before the pandemic.

Similarly, in South Korea, green agenda has been part of its development plan in the last decade. In 2008, then President Lee Myung-bak announced green growth strategy as the centrepiece of the nation's economic development outlook,

⁵ Corinne Le Quéré, et al., 2020, "Temporary Reduction in Daily Global CO₂ Emissions during the COVID-19 Forced Confinement, *Nature Climate Change* 10 (2020): 647-653, <https://www.nature.com/articles/s41558-020-0797-x>.

⁶ These include energy and electricity, transportation, aviation, industry, and building sectors.

⁷ "Infographic – EU Budget 2021-2027 and Recovery Plan," European Council, last modified September 2, 2020, <https://www.consilium.europa.eu/en/infographics/recovery-plan-mff-2021-2027/>.

⁸ European Commission, "A European Green Deal," accessed September 10, 2020, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

making South Korea among the first countries to do so.⁹ Therefore, the USD 61 billion (SGD 83.45 billion) Green New Deal,¹⁰ which is featured in Korean New Deal recovery plan, is part of an ongoing development trajectory. In fact, the Green New Deal was originally the ruling Democratic Party's manifesto ahead of parliamentary election in April 2020.¹¹

The assessments of the EU and South Korean green deals in view of 1.5°C Paris target are beyond the scope of this study. But it suffices to point out that green agenda needs to have a certain level of centrality within existing development plans for a so-called green recovery pathway to emerge after the pandemic. In other words, the pandemic situation itself unlikely serves as a factor that spurs a green recovery.

In Southeast Asia, the ambition for green agenda has been weaker. Most countries in the region are developing nations and they do not carry equal expectations to reduce carbon emissions compared to developed countries. Among other reasons, the integration of green agenda in development plans has been challenging and partial because of the imperative to grow the economy, secure energy, food, and other needs, and the high costs often associated with the acquisition of technology and expertise needed to transition to a low-carbon economy.

Such lack of ambition can be seen in the relatively low shares of renewable sources in projected energy plans. Indonesia targets 23 percent in national energy mix by 2025, Malaysia 20 percent in its electricity generation by 2025, Thailand 20 percent in its electricity generation by 2037, the Philippines 29.2 percent in its total primary energy supply by 2040, and Singapore 10 per cent of peak daily electricity demand by 2030. The rest of energy sources in these countries will continue to be overwhelmingly fossil fuel-based.

Thus, while ongoing renewable energy developments in the region may seem to be in conformance with green agenda, they fall short behind the ambition needed for the 1.5°C climate goal. Indeed, Indonesia's¹² and Singapore's¹³ emission reduction pledges in the Nationally Determined Contributions of the 2015 Paris Agreement are rated *highly insufficient*, and the Philippines' is rated *2°C compatible* although it is still too high to reach the 1.5°C target.¹⁴

Against such backdrop, ongoing low-carbon transitions in the region can hardly be qualified as having a central role in national growth plans. Rather, the approach taken can be perceived as 'economic growth first, and green it when possible.' The post-pandemic recovery responses thus follow a similar feature as shown in the following country examples.

⁹ "Korea's Global Commitment to Green Growth," The World Bank, last modified May 3, 2012,

<https://www.worldbank.org/en/news/feature/2012/05/09/Korea-s-Global-Commitment-to-Green-Growth>

¹⁰ Sladjana Djunusic, "South Korea commits USD 61bn to Green New Deal by 2025," *Renewables Now*, July 17, 2020,

<https://renewablesnow.com/news/south-korea-commits-usd-61bn-to-green-new-deal-by-2025-706741/#:~:text=%E2%80%9CThe%20Green%20New%20Deal%20is,the%20Korean%20New%20Deal%20presentation.>

¹¹ Chloé Farand, "South Korea to implement Green New Deal after ruling party election win," *Climate Home News*, April 16, 2020,

[https://www.climatechangenews.com/2020/04/16/south-korea-implement-green-new-deal-ruling-party-election-win/.](https://www.climatechangenews.com/2020/04/16/south-korea-implement-green-new-deal-ruling-party-election-win/)

¹² "Indonesia," Climate Action Tracker, last modified December 2, 2019, <https://climateactiontracker.org/countries/indonesia/>

¹³ "Singapore," Climate Action Tracker, last modified July 30, 2020, <https://climateactiontracker.org/countries/singapore/>

¹⁴ "The Philippines," Climate Action Tracker, last modified December 2, 2019 <https://climateactiontracker.org/countries/philippines/>

Indonesia

Pre-COVID-19

Indonesia pledges 29 percent emission reduction, and 41 percent with international assistance, by 2030.¹⁵ To this end, Indonesia formulated climate mitigation strategy that includes fuel switching and renewable energy development.¹⁶ In 2015, the Ministry of Energy and Mineral Resources passed Regulation No. 12 that mandates the production of biodiesel containing domestically sourced palm oil.¹⁷ As for renewable energy, the current Joko Widodo administration aims to build 3,700 MW of renewable power plants as part of its national 35,000 MW electricity programme.¹⁸ Indonesia targets 23 percent of renewable sources in national energy mix by 2025.¹⁹

Indonesia has made incremental progress in building solar and power plants. By 2019, 0.1 Terawatt-hours (TWh) of electricity was generated from solar plants.²⁰ In early 2020, Indonesia entered into an agreement to purchase 145MW power from a floating solar that UAE-based company Masdar will build in Cirata, West Java.²¹ Additionally, the government plans to expand rooftop and off-grid solar installations.

As for wind power, Indonesia connected its first 75MW utility-scale facility in Sidrap, South Sulawesi in July 2018.²² Another installation of 72MW capacity in Jeneponto, South Sulawesi, has also been in operation since December 2018.²³ As of November 2018, Indonesia had in its agenda a vision to build 22 wind power plants with a total capacity of 1,377MW.²⁴

Of the 23 percent of renewable target in national energy mix by 2025, the share of renewables in Indonesia's electricity generation in 2019 stood at 0.6 percent.²⁵ Although this is not a strictly comparable measurement,²⁶ it does provide an indication of the gap that Indonesia needs to urgently close within five years.

¹⁵ "Update Komitmen Target Penurunan Emisi Indonesia (Update on Indonesia's Emission Reduction Target)," The Ministry of Environment of Forestry of the Republic of Indonesia, last modified February 18, 2020, http://ppid.menlhk.go.id/siaran_pers/browse/2324.

¹⁶ The Republic of Indonesia, "Peraturan Presiden Republik Indonesia Nomor 61 Tahun 2011 tentang Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca (Presidential Regulation of the Republic of Indonesia Number 61 Year 2011 on National Action Plan on Greenhouse Gas Emission Reduction)," last accessed August 27, 2020, http://www1.bappenas.go.id/files/1114/1214/1681/Peraturan_Presiden_Republik_Indonesia_No.61_tahun_2011_tentang_Rencana_Aksi_Nasional_Penurunan_Emisi_Gas_Rumah_KacaIndonesia.pdf.

¹⁷ "Pahami Istilah B20, B30, B100, BBN dalam Bioenergi (Understand the Terms B20, B30, B100, BBN in Bioenergy)," Directorate General of Renewable New Energy and Energy Conservation of the Ministry of Energy and Mineral Resources of the Republic of Indonesia, last modified December 18, 2019, <http://ebtke.esdm.go.id/post/2019/12/18/2433/pahami.istilah.b20.b30.b100.bbn.dalam.bioenergi?lang=en>.

¹⁸ Muh. Syaifullah, "Jokowi to Launch 35,000 MW Electricity Program," *Tempo*, May 4, 2015 <https://en.tempo.co/read/663309/jokowi-to-launch-35000-mw-electricity-program>.

¹⁹ The Republic of Indonesia, "Peraturan Presiden Republik Indonesia Nomor 22 Tahun 2017 tentang Rencana Umum Energi Nasional (Presidential Regulation of the Republic of Indonesia Number 22 Year 2017 on National Energy Plan)," last accessed August 30, 2020 <https://www.esdm.go.id/assets/media/content/content-rencana-umum-energi-nasional-ruen.pdf>

²⁰ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

²¹ Norman Harsono, "UAE's Masdar to Support Development of Indonesia's Largest Solar Power Plant," *The Jakarta Post*, January 8, 2020, <https://www.thejakartapost.com/news/2020/01/08/uaes-masdar-to-support-development-of-indonesias-largest-solar-power-plant.html>.

²² Andi Hajramurni, "Jokowi Inaugurates First Indonesian Wind Farm in Sulawesi," *The Jakarta Post*, July 2, 2018, <https://www.thejakartapost.com/news/2018/07/02/jokowi-inaugurates-first-indonesian-wind-farm-in-sulawesi.html#:~:text=President%20Joko%20%E2%80%9CJokowi%E2%80%9D%20Widodo%20on,its%20kind%20in%20Southeast%20Asia>.

²³ Hery Trianto and Ni Putu Eka Wiratmini, "Dukungan Bauran EBT, PLTB Tolo 72 MW Sudah Produksi Listrik 142,86 MWh (Supporting Renewable Mix, 72 MW Wind Facility Tolo Producing 142,86 MWh of Electricity)," *Bisnis.com*, September 6, 2019,

²⁴ "Sebanyak 22 Proyek PLTB Siap Dibangun (22 Wind Power Projects To be Built)," *Dunia Energi*, November 21, 2018, <https://www.dunia-energi.com/sebanyak-22-proyek-pltb-siap-dibangun/>.

²⁵ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

²⁶ This is because national energy mix is not only about electricity but also includes the use of energy in the transportation sector.

Recovery Plan & Assessment

In his annual state of the union speech to the Parliament on 15 August 2020, President Joko Widodo presented post-COVID-19 economic recovery trajectory.²⁷ The main thrust of the recovery plan is to achieve economic sufficiency by reducing import dependence and strengthening domestic capacity in priority sectors that include health, food, material processing and energy.

In the energy sector, the recovery plan sees a strengthened commitment to accelerate the ongoing biodiesel production. From fuel use perspective, this certainly presents a promising development towards emission reduction. On the other hand, from land use perspective, the increased use of palm oil in biodiesel may lead to more emissions coming from land use change.²⁸ Therefore, this presents a paradox in climate mitigation efforts.

Another initiative that raises a similar concern is Indonesia's plan to create food estates in Central Kalimantan and North Sumatra Provinces in a bid to strengthen domestic food supply chains.²⁹ The food estate in Central Kalimantan Province will be developed over an area that was previously part of government's Peatland Development Project.³⁰ As peatland restoration is critical in mitigating emissions from land use change, the food estate program signals Indonesia's compromising its climate commitments for food security reasons.

A strong focus on economic sufficiency is evidently a direct response to the pandemic impacts that have underscored the volatility of a globalised economy. As such, considering that much of the core materials, technologies, and human resources needed to build and operate renewable energy installations still rely on imports, the increased emphasis on domestic market may disincentivise future large-scale energy transition to solar and wind power.

Rooftop solar installations, however, may stand a chance to get further developed³¹ especially because of their perceived usefulness in helping millions of poorest households in Indonesia,³² and supporting the activities of small and medium enterprises, farmers and fishermen, and new industrial clusters as seen in the case of Central Java Province.³³

An absence of emphasis on green agenda in Indonesia's recovery plan suggests that a green recovery is unlikely although fuel switch and low-carbon transition may continue.

²⁷ "Naskah Lengkap Pidato Kenegaraan Presiden Jokowi 2020 (Full Transcript of President Jokowi's Annual State of the Union Speech)," *Kompas*, last modified August 15, 2020, <https://jeo.kompas.com/naskah-lengkap-pidato-kenegaraan-presiden-jokowi-2020>.

²⁸ Land use change generally refers to a conversion of areas capable of removing emissions, like forests, into other purposes such as human settlements, plantations, among others.

²⁹ "Naskah Lengkap Pidato Kenegaraan Presiden Jokowi 2020 (Full Transcript of President Jokowi's Annual State of the Union Speech)," *Kompas*, last modified August 15, 2020, <https://jeo.kompas.com/naskah-lengkap-pidato-kenegaraan-presiden-jokowi-2020>.

³⁰ Mardika Parama, "Government to Develop 165,000 Hectares Land in Central Kalimantan for Food-estate Program," *The Jakarta Post*, June 11, 2020, <https://www.thejakartapost.com/news/2020/06/11/government-to-develop-165000-hectares-land-in-central-kalimantan-for-food-estate-program.html>.

³¹ Norman Harsono, "Regulatory Reform Key to Post-pandemic Green Energy Investment, IEA says," *The Jakarta Post*, August 6, 2020, <https://www.thejakartapost.com/news/2020/08/06/regulatory-reform-key-to-post-pandemic-green-energy-investment-iea-says.html>.

³² Norman Harsono, "Indonesia Working on \$1b Solar-driven Green Economic Recovery Scheme," *The Jakarta Post*, June 19, 2020, <https://www.thejakartapost.com/news/2020/06/19/indonesia-working-on-1b-solar-driven-green-economic-recovery-scheme.html>.

³³ "Green Economic Recovery: Akselerasi Pengembangan Energi Surya sebagai Strategi Pemulihan Ekonomi Indonesia Pasca-COVID-19 (Green Economic Recovery: The Acceleration of Solar Energy Development as Part of Indonesia's Economic Recovery Strategy Post-COVID-19)," video uploaded on IESR Indonesia Youtube page, May 19, 2020, <https://www.youtube.com/watch?v=Gi76toEy2JQ>

Malaysia

Pre-COVID-19

Malaysia seeks to reduce 35 percent of its emissions intensity by 2030 from 2005 levels, and an additional 10 percent with international assistance.³⁴ Malaysia aims to increase the share of renewable energy sources, excluding hydropower above 100MW, in its electricity sector to 20 percent by 2025.³⁵ As part of its plan, Malaysia seeks to expand solar power development, and has put in place Large Scale Solar (LSS) programs and Net Energy Metering (NEM) to support its renewable energy goal. By the end of 2019, Malaysia had three rounds of LSS bidding with a total capacity awarded amounting to 1,634.21 MW.³⁶ The largest installation to date is a 50MW solar farm built in Sepang, Selangor.³⁷

Of the 20 percent target by 2025, the share of renewables in electricity generation in 2019 stood at 0.1 percent.³⁸ This indicates a need for an ambitious scale-up of renewable projects in the next five years.

Recovery Plan & Assessment

In June 2020, the Malaysian government released its short-term RM 35 billion³⁹ (SGD11.4 billion) economic recovery plan called PENJANA.⁴⁰ It covers a period from June to December 2020.⁴¹ The document details various relief measures, spending stimulus, and economic recovery strategy. The recovery pathway emphasises the boosting of domestic economy. This is evidenced in campaigns to buy Malaysian products and promote Malaysia as travel destination, and the prioritisation of tourism; arts, culture, and entertainment; agriculture and food; and commodity sectors.⁴²

The plan makes no mention of climate action. Nevertheless, Malaysia still taps into its existing LSS scheme to assist economic recovery and pushed ahead with opening a tender for 1GW of solar projects in June 2020.⁴³ Although this may assist the progress for green agenda after the pandemic, PENJANA at the same time encourages the purchase of cars through tax rebates in support of the automotive industry.⁴⁴ This inconsistency potentially jeopardises overall climate mitigation efforts.

Similar to Indonesia, the absence of a green approach in Malaysian recovery plan suggests that a green recovery is unlikely although some renewable projects may continue.

³⁴ "Intended Nationally Determined Contribution of the Government of Malaysia," accessed September 9, 2020, <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Malaysia/1/INDC%20Malaysia%20Final%2027%20November%202015%20Revised%20Final%20UNFCCC.pdf>.

³⁵ Energy Commission, "Energy Malaysia," Volume 18, 2019, [https://www.st.gov.my/contents/files/download/112/Energy_Malaysia_18_\(Online\).pdf](https://www.st.gov.my/contents/files/download/112/Energy_Malaysia_18_(Online).pdf).

³⁶ Energy Commission, "LSS Progress by Region (Q1)," accessed August 30, 2020, [https://www.st.gov.my/contents/2020/Copy%20of%20LSS%20Progress%20By%20Region%20\(Q1\).pdf](https://www.st.gov.my/contents/2020/Copy%20of%20LSS%20Progress%20By%20Region%20(Q1).pdf).

³⁷ Farah Adilla, "TNB to Deploy Big Data Analytics in Sepang LSS to Boost Efficiency," *New Straits Times*, May 6, 2020, <https://www.nst.com.my/business/2020/05/590316/tnb-deploy-big-data-analytics-sepang-lss-boost-efficiency>.

³⁸ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

³⁹ The Ministry of Finance of Malaysia, "Building the Economy Together," last accessed August 21, 2020, <https://penjana.treasury.gov.my/index-en.html>.

⁴⁰ The Ministry of Finance of Malaysia, "PENJANA," accessed August 19, 2020, <https://penjana.treasury.gov.my/pdf/PENJANA-Booklet-Bm-v3.pdf>.

⁴¹ *Ibid.*

⁴² *Ibid.*

⁴³ José Rojo Martín, "Malaysia Eyes Pandemic Recovery with 1GW New Solar Tender," *PVTECH*, June 1, 2020, <https://www.pv-tech.org/news/malaysia-eyes-pandemic-recovery-with-1gw-new-solar-tender>.

⁴⁴ *Ibid.*

The Philippines

Pre-COVID-19

The Philippines plans to cut down about 70 percent of its emissions by 2030 relative to its 2000-2030 business-as-usual scenario.⁴⁵ The Philippine Energy Plan (2017-2040) seeks to increase renewable energy capacity at least to 20,000MW by 2040.⁴⁶ In 2019, the Philippines passed the Energy Efficiency and Conservation Act⁴⁷ and expressed its commitment to implement two flagship renewable energy policies namely the Renewable Portfolio Standards and the Green Energy Option to support its climate mitigation efforts.⁴⁸ Wind and solar power installed capacities have grown in recent years and electricity generation from wind and solar sources stood at 1.2 and 1.3 TWh by 2019 respectively.⁴⁹

Under Clean Energy Scenario, the Philippines aims to have 29.2 percent of renewables in its total primary energy supply by 2040.⁵⁰ The share of renewables in primary energy consumption in 2019 that stood at 7.4 percent⁵¹ suggests that the Philippines needs to substantially expand its renewable projects in the next two decades.

Recovery Plan & Assessment

In addition to other stimulus packages, the Philippines government proposed 4.3 trillion Peso (SGD119 billion) for the 2021 budget.⁵² Creating 1 million new jobs is part of government plans to recover the economy, but the priority sectors are yet to be identified.⁵³ The Philippine Program for Recovery with Equity and Solidarity (PH-PROGRESO) likewise does not specify priority areas.⁵⁴

President Rodrigo Duterte in his fifth state of the nation speech on 27 July 2020, however, underscored the importance of expanding infrastructure projects that build upon government's existing *Build Build Build* programme as a key tool to create employment and revitalise the economy.⁵⁵ This indicates that most investments will go to infrastructure building. In contrast, renewable energy development was not mentioned in any meaningful way except for a brief allusion to solar panels being used to electrify Last Mile Schools.⁵⁶ His speech triggered reactions from environmental group.⁵⁷

⁴⁵ "Intended Nationally Determined Contributions of the Republic of the Philippines," accessed September 9, 2020, <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Philippines/1/Philippines%20-%20Final%20INDC%20submission.pdf>.

⁴⁶ Department of Energy, "Renewable Energy Roadmap 2017-2040," accessed September 9, 2020, <https://www.doe.gov.ph/pep/renewable-energy-roadmap-2017-2040>.

⁴⁷ Congress of the Philippines, "Republic Act No. 11285: An Act Institutionalizing Energy Efficiency and Conservation, Enhancing the Efficient Use of Energy, and Granting Incentives to Energy Efficiency and Conservation Projects," last modified April 12, 2019, <https://www.officialgazette.gov.ph/downloads/2019/04apr/20190412-RA-11285-RRD.pdf>.

⁴⁸ Enrico dela Cruz and Gopakumar Warrier, "Philippines readies new renewable energy policies to curb coal dependence," *Reuters*, July 25, 2019, <https://www.reuters.com/article/us-philippines-renewables-coal/philippines-readies-new-renewable-energy-policies-to-curb-coal-dependence-idUSKCN1UK1CN>.

⁴⁹ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

⁵⁰ Department of Energy, "PEP 2017 - 2040: Energy Demand and Supply Outlook," accessed September 17, 2020, https://www.doe.gov.ph/sites/default/files/pdf/pep/pep_volume_1_energy_demand_supply_outlook.pdf.

⁵¹ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

⁵² "Coronavirus: Philippines Plans Record S\$119 Billion 2021 Budget for Post-pandemic Recovery," *The Straits Times*, June 24, 2020, <https://www.straitstimes.com/asia/se-asia/philippines-plans-record-s119-billion-2021-budget-for-post-pandemic-recovery>

⁵³ Daniel Teo, "Jobs as Part of COVID-19 Recovery Plan," *hrmasia*, May 6, 2020, <https://hrmasia.com/philippines-to-create-one-million-jobs-as-part-of-covid-19-recovery-plan/>

⁵⁴ "The Duterte Administration's Philippine Program for Recovery with Equity and Solidarity (PH-PROGRESO)," Department of Finance of the Republic of the Philippines, last modified May 17, 2020, <https://www.dof.gov.ph/wp-content/uploads/2020/05/We-Will-Rise-As-One-brochure-as-of-May-17-2020.pdf>

⁵⁵ "Rodrigo Roa Duterte, Fifth State of the Nation Address, July 27, 2020," Official Gazette of the Republic of the Philippines, last modified July 27, 2020, <https://www.officialgazette.gov.ph/2020/07/27/rodrigo-roa-duterte-fifth-state-of-the-nation-address-july-27-2020/>

⁵⁶ *Ibid.*

⁵⁷ Hannah Alcosoba Fernandez, "Duterte's Covid-19 Recovery Plan Criticised for Excluding Clean Energy Policies," *Eco-Business*, July 28, 2020, <https://www.eco-business.com/news/dutertes-covid-19-recovery-plan-criticised-for-excluding-clean-energy-policies/>

Despite the absence of green agenda in its recovery plan, the Philippines may still be able to continue its low carbon transition progress thanks to commitments from domestic conglomerates Ayala,⁵⁸ Aboitiz and San Miguel⁵⁹ that are presently active in green businesses. Similarly, both Resolution 761 that declares national climate emergency⁶⁰ and Resolution 724 that exhorts national and local governments to mainstream and implement climate action⁶¹ which Congress Committee on Climate Change approved in early June 2020⁶² could potentially act as a gatekeeper of the Philippines' green trajectory post-COVID-19.

Thus, although a green recovery in the Philippines is unlikely due to an absence of green commitment in its recovery outlook, the Philippines may still continue with its ongoing low-carbon transition projects.

Thailand

Pre-COVID-19

Thailand seeks to slash 20 percent of its emissions by 2030 from the 2005 projected business-as-usual levels.⁶³ The energy sector is the biggest emitter in Thailand and renewable energy development is part of Thailand's climate mitigation strategy.⁶⁴ In 2019, wind and solar plants generated about 2.7TWh and 5.0TWh of electricity respectively.⁶⁵ Local firms like Energy Absolute, Superblock, SPCG and Thai Solar Energy are among the main investors in solar power development.⁶⁶

Thailand aims to increase the share of renewables, excluding hydropower, to about 20 percent by 2037.⁶⁷ As of 2019, renewable sources contributed to about 0.8 percent of electricity generation.⁶⁸ This shows Thailand's ambitious plan to invest in renewable projects in the next two decades.

Recovery Plan & Assessment

In May 2020, the Thai parliament approved 1.9 trillion Baht (SGD 82.5 billion) budget of which 600 billion Baht was earmarked to support health sector and relief measures, and the remaining was intended to recover Thai's economy.⁶⁹ The economic package does not specify priority sectors although strengthening domestic economy is the main thrust of the economic recovery strategy.⁷⁰ The massive open-ended budget allocation for job creation, community support and

⁵⁸ John Eric Francia, "AC Energy's Pledge for Renewable Energy," video uploaded on OurEnergy 2030 Facebook page, July 11, 2020, https://www.facebook.com/ourenergy2030/videos/1410234129160177/?__so__=permalink&__rv__=related_videos

⁵⁹ "The Aboitiz Pledge and the San Miguel Corporation Pledge," video uploaded on OurEnergy 2030 Facebook page, July 21, 2020, https://www.facebook.com/ourenergy2030/videos/323788278649474/?__so__=permalink&__rv__=related_videos

⁶⁰ House of Representatives, of the Philippines "House Resolution No. 761," accessed August 21, 2020, http://congress.gov.ph/legisdocs/basic_18/HR00761.pdf

⁶¹ House of Representatives of the Philippines, "House Resolution No. 724," accessed August 21, 2020, http://congress.gov.ph/legisdocs/basic_18/HR00724.pdf

⁶² "Special Committee on Climate Change Videoconference via ZOOM," video uploaded on House of Representatives of the Philippines Facebook page, June 3, 2020, <https://www.facebook.com/HouseofRepsPH/videos/253026815916952/>

⁶³ "Intended Nationally Determined Contribution (INDC) of Thailand," accessed September 9, 2020, https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Thailand%20First/Thailand_INDC.pdf.

⁶⁴ Ministry of Natural Resources and Environment of Thailand, "Climate Change Master Plan 2015-2050," 2015, https://climate.onep.go.th/wp-content/uploads/2019/07/CCMP_english.pdf.

⁶⁵ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

⁶⁶ International Renewable Energy Agency (IRENA), "Renewable Energy Market Analysis Southeast Asia," 2018, https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Jan/IRENA_Market_Southeast_Asia_2018.pdf.

⁶⁷ Reuters Staff, "Thailand Approves Power Plan, Expects Capacity to Reach 77 GW by 2037," *Reuters*, April 20, 2019, <https://af.reuters.com/article/thailand-energy-plan-idAFL3N22C2O8>

⁶⁸ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

⁶⁹ Patpicha Tanakasempipat and Susan Fenton, "Thailand's Parliament Approves \$58 Billion Economic Package to Ease Virus Impact," *Reuters*, May 31, 2020, <https://www.reuters.com/article/us-health-coronavirus-thailand/thailands-parliament-approves-58-billion-economic-package-to-ease-virus-impact-idUSKBN237047>.

⁷⁰ "Looking Ahead: Thailand's Economic Relief and Recovery – Post COVID-19," *Reuters Plus*, accessed August 19, 2020, <https://www.reuters.com/brandfeatures/thailand-advancing-into-the-future/thailands-economic-relief-and-recovery-post-covid-19>.

infrastructure building, however, may open opportunities for rent-seeking and corrupt practices.⁷¹

Although there is yet an explicit indication of its recovery trajectory, the Thai government may fall back on its existing national S-curve development plan that envisions the making of Thailand as an innovation-driven economy⁷² to guide its recovery. It may accelerate some of the five sectors identified in the scheme namely biofuels and biochemical, digital economy, medical hub, automation and robotics, and aviation and logistics.⁷³ The Thai government may also identify priority areas from the more recent bio-circular green (BCG) economy plan that the Ministry of Higher Education, Science, Research and Innovation launched in June 2020.⁷⁴ This plan envisages the implementation of BCG concepts in agriculture, food, energy and biochemical, medical supplies and vaccines, medical equipment, tourism and creative economy, and circular economy sectors.⁷⁵

Since recovery plan is yet to be finalised, it is hard to tell whether Thailand will embark on a green recovery trajectory although it is rather unlikely considering a lack of strong focus on emission mitigation particularly in the energy sector in existing development plans. Regardless, Thailand may still be able to make some progress in its low-carbon transition thanks to the presence of big domestic companies like BCPG and TPI Polene Power that are involved in renewable energy projects.⁷⁶

Singapore

Pre-COVID-19

Singapore plans to reduce 36 percent of its emission intensity by 2030 from 2005 levels which translates to peak emissions at 65 MtCO₂e around 2030.⁷⁷ Singapore envisions to increase solar energy installations and introduce electric vehicles as part of its climate mitigation strategy.⁷⁸ The government plans to expand installed solar capacity from 260 megawatt-peak (MWp) in 2019 to 2 gigawatt-peak (GWp) by 2030.⁷⁹ In addition to rooftop solar panels, Singapore has an ongoing project to build an offshore floating solar systems along the Strait of Johor,⁸⁰ and has set in motion the processes to build a similar project of 60MWp capacity,⁸¹ and two projects of 1.5MWp each.⁸²

⁷¹ Post Reporters, "Govt Recovery Plan under Fire," *Bangkok Post*, June 12, 2020, <https://www.bangkokpost.com/thailand/general/1933268/govt-recovery-plan-under-fire>.

⁷² Lamonphet Apisitniran, "FTI Readies Coronavirus Recovery Plan," *Bangkok Post*, May 4, 2020, <https://www.bangkokpost.com/business/1912184/fti-readies-coronavirus-recovery-plan>.

⁷³ Bonggot Anuroj, "Thailand 4.0 – A New Value-based Economy," *Thailand Board of Investment*, accessed August 19, 2020, https://www.boei.go.th/upload/content/Thailand,%20Taking%20off%20to%20new%20heights%20@%20belgium_5ab4e8042850e.pdf.

⁷⁴ "Master Plan for Bt6.5-tn Circular Economy Unveiled," *The Nation*, June 23, 2020, https://www.nationthailand.com/noname/30390088?utm_source=category&utm_medium=internal_referral.

⁷⁵ *Ibid.*

⁷⁶ "Renewable Energy Giants BCPG, TPIPP Forecast Big Rise in Profits," *The Nation*, June 5, 2020, https://www.nationthailand.com/news/30389063?utm_source=category&utm_medium=internal_referral.

⁷⁷ "Singapore's Update of Its First Nationally Determined Contribution (NDC) and Accompanying Information," accessed September 9, 2020, <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Singapore%20First/Singapore%27s%20Update%20of%201st%20NDC.pdf>.

⁷⁸ National Climate Change Secretariat, "Climate Change & Singapore: Challenges. Opportunities. Partnerships.," 2012, <https://www.nccs.gov.sg/docs/default-source/default-document-library/national-climate-change-strategy.pdf>.

⁷⁹ Audrey Tan, "Singapore to Ramp Up Solar Energy Production to Power 350,000 Homes by 2030," *The Straits Times*, October 29, 2019, <https://www.straitstimes.com/singapore/environment/solar-energy-to-meet-4-of-singapores-energy-demand-by-2030-up-from-less-than-1>.

⁸⁰ Chang Ai-Lien, "Sun Seeker at Sea: One of the World's Largest Offshore Floating Solar Systems Will Soon be Soaking up the Rays along the Strait of Johor," *The Straits Times*, May 4, 2019, <https://www.straitstimes.com/singapore/sun-seeker-at-sea>.

⁸¹ Clement Yong, "Sembcorp to Build Singapore's Largest Floating Solar Farm Covering 45 Football Fields," *The Straits Times*, February 10, 2020, <https://www.straitstimes.com/singapore/environment/sembcorp-to-build-singapores-largest-floating-solar-farm-covering-45-football>.

⁸² Prisca Ang, "Floating Solar Panel Systems to be Ready at 2 Reservoirs Next Year," *The Straits Times*, October 31, 2019, <https://www.straitstimes.com/singapore/floating-solar-panel-systems-to-be-ready-at-2-reservoirs-next-year>.

In 2019, Singapore pledged USD2 billion (SGD 2.75 billion) Green Investment Programme to finance green projects in Singapore and the region.⁸³ Furthermore, Singapore has been investing heavily in research to develop capacity in technology-based climate solutions. The Research Innovation Enterprise 2020 Plan (2016-2020) identifies four technology domains that include Urban Solutions and Sustainability in Singapore's research agenda.⁸⁴ Earlier this year, the government has further pledged close to SGD1 billion to support this particular research.⁸⁵

Singapore aims to increase solar energy contribution to 10 per cent of peak daily electricity demand by 2030.⁸⁶ As of 2019, renewables share in power generation was still less than 0.05 per cent.⁸⁷ This indicates Singapore's continuing vision to expand its solar projects.

Recovery Plan & Assessment

In his August 2020 budget speech, Deputy Prime Minister and Minister of Finance Heng Swee Keat highlighted three new areas of growth which Singapore needs to keep abreast of after the pandemic.⁸⁸ These are healthcare, sustainability, and artificial intelligence. Accordingly, Singapore will allocate over SGD20 billion for basic and applied research in health and biomedical sciences, climate change, and artificial intelligence between 2021 and 2025.⁸⁹ Furthermore, environmental sustainability is part of the seven key areas that government-commissioned industry-led groups must work on to assist Singapore economic recovery.⁹⁰

Although Singapore's recovery outlook includes climate and sustainability issues, there is little indication that Singapore is making extra commitment to mitigate its emissions beyond what is already planned. For example, there is no mention of plans to place environmental conditions on the aviation sector or reduce the country's high emissions per capita. Rather, recovery plan places more emphasis on ongoing efforts to create capacity and business opportunities for technology-based climate solutions. Although this will help its ongoing low-carbon transition efforts, Singapore would need stronger commitments to reduce emissions in high-carbon sectors if it were to embark on a green recovery pathway.

⁸³ "New US\$2 billion Investments Programme to Support Growth of Green Finance in Singapore," *Monetary Authority of Singapore*, November 11, 2019, [https://www.mas.gov.sg/news/media-releases/2019/new-us\\$2-billion-investments-programme-to-support-growth-of-green-finance-in-singapore](https://www.mas.gov.sg/news/media-releases/2019/new-us$2-billion-investments-programme-to-support-growth-of-green-finance-in-singapore).

⁸⁴ Research, Innovation and Enterprise Secretariat, *Research Innovation Enterprise 2020 Plan* (Singapore: Research, Innovation and Enterprise Secretariat, 2016), <https://www.mti.gov.sg/-/media/MTI/Resources/Publications/Research-Innovation-and-Enterprise-RIE-2020/RIE2020.pdf>.

⁸⁵ "Budget Speech," Singapore Budget 2020, accessed September 10, 2020, https://www.singaporebudget.gov.sg/budget_2020/budget-speech.

⁸⁶ Ministry of Trade and Industry of Singapore, "Speech by Minister Chan Chun Sing at the 12th Singapore International Energy Week 2019," last modified October 29, 2019, <https://www.mti.gov.sg/Newsroom/Speeches/2019/10/Speech-by-Minister-Chan-Chun-Sing-at-the-12th-Singapore-International-Energy-Week-2019>.

⁸⁷ BP, "Statistical Review of World Energy 2020, 69th Edition," accessed September 9, 2020, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>.

⁸⁸ "Ministerial Statement – Aug 2020," Singapore Budget 2020, accessed August 22, 2020, https://www.singaporebudget.gov.sg/budget_2020/AugustStatement.

⁸⁹ "DPM Heng Swee Keat: Emerging Stronger Together (English)", video uploaded on govsgaport Youtube page, June 20, 2020, <https://www.youtube.com/watch?v=n3eNj9mrlG0&list=PLH2CR4s1lqyg-bX4NK4uUeXujUH98T2LQ&index=22&t=0s>

⁹⁰ Aqil Haziq Mahmud, "Industry-led Groups to Develop, Execute Ideas for Post-COVID-19 Economic Growth in 'Three-month Sprint', *Channel News Asia*, June 20, 2020, <https://www.channelnewsasia.com/news/singapore/covid-19-alliances-for-action-economic-growth-heng-swee-keat-12854756>

Conclusion

The COVID-19 pandemic may seem like providing a window of opportunity for countries to transition to green growth. The country illustrations, however, have affirmed that green recovery pathway is unlikely to be the case in Southeast Asia. This is because recovery outlook seems to follow the 'growth first and green it when possible' approach of existing development plans. This suggests that green growth ideal that was weakly integrated in development plans before the pandemic is unlikely to get a stronger push after the pandemic. A lack of emphasis on strengthening climate commitments in recovery plans means that climate mitigation in the region will continue to see mixed progress at best, and may even get weakened because of a strong focus on the economy in the recovery response. Against this backdrop, the practicability of green growth as the dominant strategy in tackling climate change, especially within a shortening time window, thus needs urgent rethinking.

One way of addressing such challenge is for governments to get more intentional in making climate reality the guiding principle in their economic plans. This, however, may not be immediately forthcoming especially in developing countries. The tension between economic growth and environmental causes is widely acknowledged, which explains why developing countries do not carry the same expectations as developed countries to decarbonise their economies. But this does not mean developing countries can be complacent. Green agenda must be mainstreamed into national growth plans, but the emphasis needs not necessarily be on electrification and decarbonisation the way green growth ideals perceive it.

Developing countries in the region can thus consider alternative pathways to lower down emissions. The recovery period provides an opportunity to strengthen what has been severely lacking in current environmental management practices. These include adopting circular economy to reduce material consumption, enforcing environmental laws consistently, and strengthening waste management capacity considerably. Alongside ongoing low carbon transitions, these could serve as a more feasible strategy for developing countries in the region to contribute meaningfully towards reaching the 1.5°C Paris target.

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