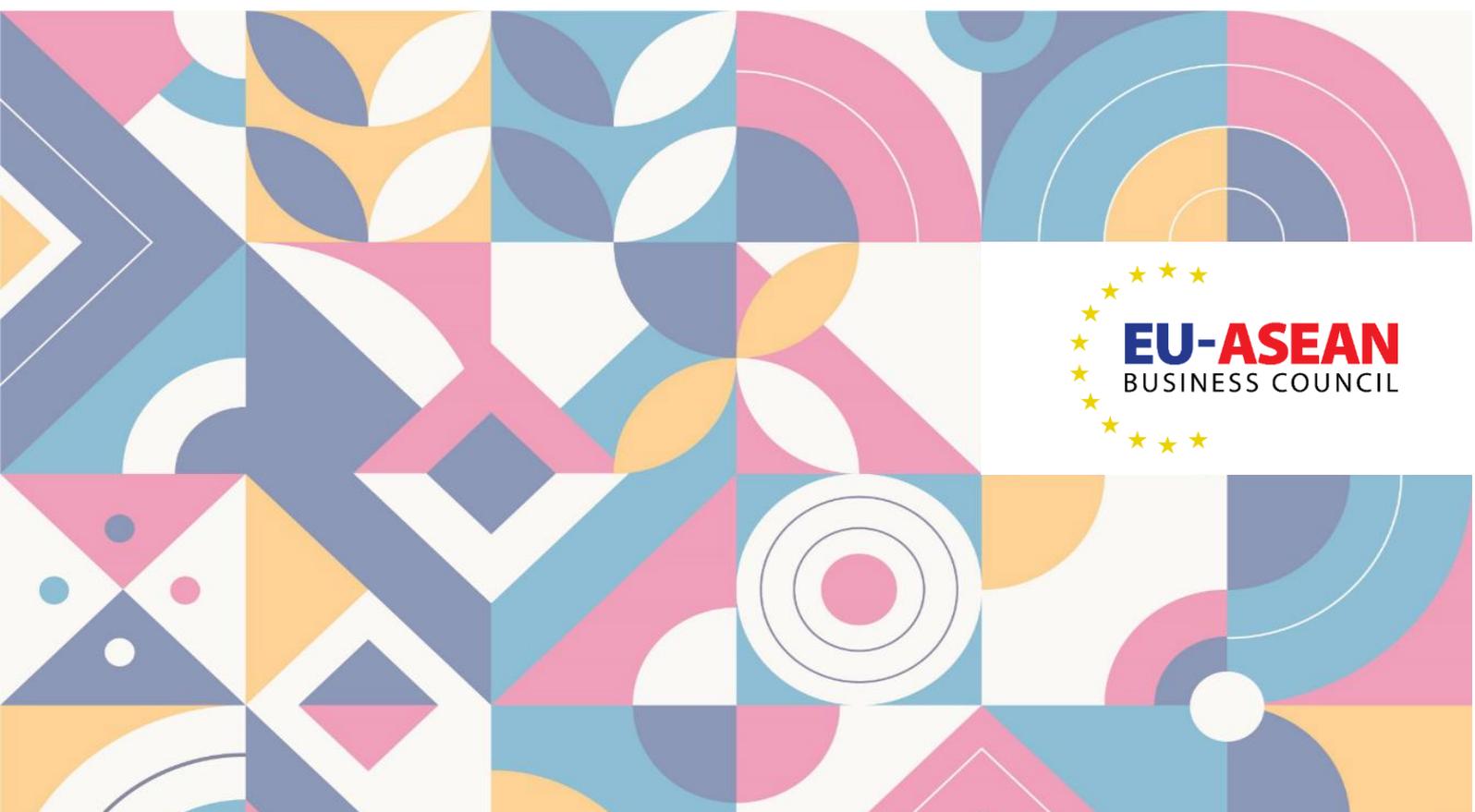




# Powering ASEAN's Energy Transition



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## EXECUTIVE SUMMARY

Over recent years, ASEAN's rapid economic growth, developmental goals and population boom have inevitably led to an increase in energy demand in member states.

As the region relies heavily on fossil fuels, this raises the question: How can we continue to support ASEAN's economic development and its increased energy demand in a more sustainable way?

This paper advocates for (1) greater political commitment and will towards the transition to renewable and less carbon intensive energy sources in ASEAN, and (2) greater public-private cooperation to close the region's sustainable infrastructure investment gap to support the move to renewables and lower-carbon energy sources that will enable ASEAN to achieve its climate action commitments.

Although there have been commendable efforts in both the development and uptake of sustainable infrastructure and renewable and less carbon-intensive energy, the sustainable financing of such projects remains limited. Hence, this paper recommends

- strengthening ASEAN's sustainable finance ecosystem,
- developing an ASEAN-specific Energy Transition Mechanism and implementing Finance to Accelerate the Sustainable Transition-Infrastructure (FAST-Infra) plans,
- phasing out fossil fuel subsidies and ensuring a more level-playing field for the introduction of renewable energy and less-carbon intensive energy sources, and
- engaging the private sector to expand investments into renewable energy as well as improving ASEAN's power grid to accommodate higher levels of renewable energy.

## ASEAN'S ENERGY NEEDS FOR THE FUTURE

ASEAN's demand for energy grew by more than 80% between 2000 and 2019.<sup>1</sup> By 2040, energy demand will grow by a further 60%, representing 12% of the global increase in energy use.<sup>2</sup> As ASEAN Member States (AMS) embark on their recovery from the economic decline as a result of the COVID-19 pandemic, their developmental aspirations in areas like infrastructure, digitalisation, high-tech manufacturing, and electric vehicle adoption, coupled with a rapidly growing urban middle class that will become greater energy consumers, will significantly grow ASEAN's appetite for energy. That said, however, the temporary slowdown in ASEAN's energy demands for oil, gas, and electricity due to COVID-19 gives AMS a valuable opportunity to recalibrate their energy plans towards renewable and less carbon intensive sources.

Currently, ASEAN's rising energy demand has been met by increasing the usage of fossil fuels, which constitute about 80% of the regional energy mix, with the remaining 20% from renewable energy.<sup>3</sup> If ASEAN were to rely mainly on fossil fuels for its development, this would have serious consequences for the environment. A well-managed shift to lower carbon energy sources would help ASEAN in its energy transition and meet its Paris Agreement commitments. Creating a sustainable investment framework for renewable energy projects in AMS, such as through promoting market-based power purchase agreements in markets where a state-controlled entity regulates and oversees the development of power markets, would also contribute to encouraging higher levels of adoption of renewable sources of energy.

A secondary effect of a decisive transition to sustainable energy is that AMS will be able to participate in an increasingly valuable economic sector. With a strong manufacturing base and a competitive labour force, ASEAN can become an important regional player in the rapidly growing economic value chain of sustainable energy equipment and solutions.

The cost of renewable energy is also declining rapidly. It is already generally cheaper than fossil fuel alternatives and will become more so in the coming years. A shift to renewable energy sources will reduce the cost for AMS of growing their domestic energy supplies.

Lastly, large companies around the world are increasingly committing to net carbon zero operations. It will be difficult for them to maintain and increase their investments in AMS if they do not have access to clean energy.

Based on this premise, the objective of this paper is to (1) reiterate why AMS need to accelerate their transition towards renewable energy and less carbon intensive energy sources and solutions, and (2) provide concrete recommendations on how European businesses and policymakers can best work with all stakeholders in ASEAN (including ASEAN leaders and industry players) to help advance the region's energy transition goals.

## ASEAN'S INTERNATIONAL AND REGIONAL COMMITMENTS

The EU-ASEAN Business Council commends ASEAN for making international and regional commitments to combat climate change. ASEAN's international and regional commitments include the 2016 Paris Agreement, ASEAN Plan of Action and Energy Cooperation (APAEC), Strategy

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<sup>1</sup> IEA, "Southeast Asia Energy Outlook 2019" (Paris, 2019), pp. 10, 28.

<sup>2</sup> Ibid, p. 26.

<sup>3</sup> Dolf Gielen, "Singapore International Energy Week," *Singapore International Energy Week* (August 18, 2020), [https://www.siew.gov.sg/docs/default-source/event/2020/asean-energy-transition-outlook\\_dolf-gielen\\_irena.pdf?sfvrsn=2](https://www.siew.gov.sg/docs/default-source/event/2020/asean-energy-transition-outlook_dolf-gielen_irena.pdf?sfvrsn=2).

5b of ASEAN's Comprehensive Recovery Framework (2020), Brunei's 8<sup>th</sup> Priority Economic Deliverable (PED) under its Sustainability thrust as the 2021 ASEAN Chair, and the joint statement by ASEAN Finance Ministers and Central Bank Governors in March 2021 to establish the ASEAN Taxonomy Board and develop an ASEAN Taxonomy for Sustainable Finance (ASEAN Taxonomy) (see table 1 for more details).

Table 1. ASEAN's international and regional commitments on energy transition and policies.

Agreements	Commitments	
2016 Paris Agreement	Limit global warming to well below 2, preferably to 1.5 degree Celsius, compared to pre-industrial levels (Ratified by all AMS).	
ASEAN Plan of Action for Energy Cooperation Phase II (2021 – 2025)	ASEAN Power Grid	To expand regional multilateral electricity trading, strengthen grid resilience and modernisation, and promote clean and renewable energy integration.
	Energy Efficiency and Conservation	To reduce energy intensity by 32% in 2025 based on 2005 levels and encourage further energy efficiency and conservation efforts, especially in the transport and industry sectors.
	Renewable Energy	To achieve an aspirational target for increasing the component of renewable energy to 23% by 2025 in the ASEAN energy mix, including through increasing the share of RE in installed power capacity to 35% by 2025.
	Regional Energy Policy and Planning	To advance energy policy and planning to accelerate the region's energy transition and resilience.
	Civilian Nuclear Energy	To build human resource capabilities on nuclear science and technology for power generation.
ASEAN Comprehensive Recovery Framework	Strategy 5b	Facilitating [the] transition to sustainable energy
Brunei's 2021 ASEAN Chairmanship	Sustainability Thrust	8 <sup>th</sup> PED – ASEAN Joint Declaration on Energy Transition and Energy Security
ASEAN Taxonomy for Sustainable Finance (ASEAN Taxonomy)	To establish the ASEAN Taxonomy Board and develop a “multi-tiered” ASEAN-wide sustainable finance taxonomy.	

Domestically, some AMS have made similar policy commitments through various domestic green plans such as Indonesia’s Green Growth Programme, Singapore’s Green Plan 2030, and Vietnam’s National Strategy on Green Growth. All AMS have also set their Nationally Determined Contributions (NDCs) as part of the Paris Agreement.

AMS have also announced their aspirational targets for increasing the share of renewable energy in their energy mixes (see table 2). However, the 6<sup>th</sup> ASEAN Energy Outlook found that the AMS Target Scenario, which is the scenario that models the situation if AMS only meet their domestic renewable energy targets, is insufficient to meet its APAEC targets by 2025 and 2040 respectively (see table 3).

Table 2. Renewable energy targets under the AMS’ domestic energy plans.<sup>4</sup>

Country	Renewable Energy Targets
Brunei Darussalam	<b>10%</b> of renewables the energy mix by 2035
Cambodia	Power <b>3%</b> of residential electricity demand through solar PV by 2035.
Indonesia	<b>23%</b> of renewables in the energy mix by 2025, and <b>32%</b> by 2050
Laos	Increase the share of small-scale renewables in total energy consumption to <b>30%</b> by 2025
Malaysia	<b>20%</b> of renewables in the energy mix by 2025 (excluding hydro)
Myanmar	<b>12%</b> of renewables in the energy mix by 2025 (excluding hydro)
Philippines	<b>26.9%</b> of renewables in the energy mix by 2030
Singapore	Produce enough solar energy to power 350,000 households, or meet <b>4%</b> of Singapore’s energy demand today, by 2030
Thailand	<b>49%</b> of renewables in the energy mix by 2037
Vietnam	The 7 <sup>th</sup> Power Development Plan (PDP) stipulates <b>2.1% wind, 15.5% hydro, 2.1% biomass, 3.3% solar</b> in the electricity mix by 2030. The 8 <sup>th</sup> PDP to be announced in 2021 is expected to raise these targets.

<sup>4</sup> Tim Ha, “Running out of Excuses: Where Does Southeast Asia’s Energy Transition Stand in 2020?,” Eco-Business, October 1, 2020, <https://www.eco-business.com/news/running-out-of-excuses-where-does-southeast-asias-energy-transition-stand-in-2020/>.

Table 3. Projected percentage of renewable energy in total energy mix under current AMS' energy policies VS. APAEC targets and Sustainable Development Goals.<sup>5</sup>

Year	Target under AMS' Energy Policies		APAEC Target		SDG Target	
	2025	2040	2025	2040	2025	2040
% of Renewable Energy in Total Primary Energy Supply	17.7%	22.1%	23%	28.7%	17.2%	21.7%

The APAEC Target Scenario outlines what it would take to achieve the regional targets for energy intensity and renewable energy outlined in APAEC 2016–2025, and how the measures could transform ASEAN's energy systems beyond 2025. The Sustainable Development Goals (SDG) Target Scenario builds on the APAEC Target Scenario to explore what ASEAN Member States would have to do to achieve 3 of the SDG 7 targets by 2030, namely: to ensure universal access to affordable, reliable and modern energy services; substantially increase the share of renewable energy in the global energy mix; and double the global rate of improvement in energy efficiency (from 2015 levels). While current AMS national energy policies' targets for the proportion of renewable energy within their domestic energy mix align with those of the SDG Target, they fall short of the declared APAEC Target. Thus, ASEAN **must** accelerate its transition towards renewables and less carbon intensive energy sources and solutions if it wishes to fulfil both its regional targets and international commitments on transitioning to cleaner energy.

## PRACTICAL REASONS FOR ASEAN'S ENERGY TRANSITION

The urgency in accelerating the transition towards renewable energy stems primarily from the fact that the impact of climate change is pronounced for all AMS:

- Vietnam, Myanmar, the Philippines, and Thailand are amongst the top 10 countries in the world that are impacted the most by climate change.<sup>6</sup>
- Jakarta is the fastest sinking city in the world:<sup>7</sup> 40% of the city are already below sea level and some areas are sinking as fast as 20 centimetres per year.<sup>8</sup>
- Bangkok is sinking at 30 millimetres per year, while Ho Chi Minh is sinking at 80 millimetres per year.<sup>9</sup>
- In Thailand, 12 million people would be displaced by annual floods by 2050.<sup>10</sup>
- For Vietnam, 31 million people would be affected.
- The entire ASEAN region will also be affected by the increased frequency and intensity of typhoons, floods, droughts, and increased spread of tropical diseases due to warmer

<sup>5</sup> ACE, "The 6th ASEAN Energy Outlook (AEO6)" (Jakarta: ASEAN Centre for Energy, 2020), p. 18.

<sup>6</sup> David Eckstein, Vera Künzel, and Laura Schäfer, "Global Climate Risk Index 2021," *Germanwatch*, January 2021, <https://www.germanwatch.org/en/19777>.

<sup>7</sup> ASEAN Today, "For Southeast Asia's Sinking Cities, Climate Change Is a Design Problem: ASEAN Today," Daily commentaries covering ASEAN business, fintech, economics, and politics, April 6, 2021, <https://www.aseantoday.com/2021/04/for-southeast-asias-sinking-cities-climate-change-is-a-design-problem/>

<sup>8</sup> Ibid.

<sup>9</sup> Ibid.

<sup>10</sup> Climate Central, "Flooded Future: Global Vulnerability to Sea Level Rise Worse than Previously Understood" (Climate Central, 2019), p. 6.

weather, with lower-income and vulnerable families being affected the most. With this, the Asian Development Bank estimates that these effects will wipe out 11% of ASEAN's GDP by 2100.<sup>11</sup>

Climate change will also have adverse financial impacts on the ASEAN economy. Findings from Swiss Re Institute's Climate Economics Index warn that Indonesia, Malaysia, the Philippines, Singapore and Thailand would lose economic output totalling more than seven times their GDP by 2050, and ASEAN as a region could lose 37.4% of their current GDP by 2048, if steps are not taken to mitigate climate change.<sup>12</sup> This makes the ASEAN market the most vulnerable in the Asian region.<sup>13</sup>

The financial drivers for change extend beyond the impacts of damaging climate-related events. The long-term trend of cost for power generation is clearly in favour of renewable sources (see figure 2, page 11). Manufacturing industries in ASEAN will be materially disadvantaged if they rely on expensive fossil fuel generated electricity, both because of the higher cost, and through the possibility of carbon border adjustment mechanisms that add a carbon price to exports. Further, without clean energy sources, ASEAN will become unattractive to foreign investment flows. As large companies, both domestic and international, implement their commitments to achieve net zero carbon operations, investment decisions will increasingly be driven by the availability of zero carbon electricity supply for factories, offices, and transport.

In addition, regulators and stock exchanges have been placing more focus on ESG disclosures. Stock exchanges in Singapore, Malaysia, Thailand, Vietnam, Indonesia and the Philippines all require listed companies to produce sustainability reports annually. While some exchanges started off with voluntary guidelines or requirements only on a 'comply-or-explain' basis, there is an increasing shift towards mandatory disclosures that converge towards global standards such as the Global Reporting Initiative (GRI), Task Force on Climate-Related Financial Disclosures (TCFD) or Sustainability Accounting Standards Board (SASB). Both investors and investees will be under increasing pressure to report on climate-related metrics.

Therefore, there are not only international pressures, but also strong economic rationale and practical reasons to accelerate the energy transition.

## THE ROLE OF FOSSIL FUELS IN ASEAN'S ENERGY TRANSITION

While there is an urgent need to reduce carbon emissions, the reality of the situation is that the world is still dependent on fossil fuels. As of 2019, 84% of the global energy system still depended on fossil fuels, and 64.2% of global electricity generation used fossil fuels.<sup>14</sup> In ASEAN, fossil fuels are projected to make up 86.4% of the total energy mix in 2025.<sup>15</sup>

Industries such as cement, steel, aviation, maritime shipping, and long-haul trucking are significant carbon emitters but face practical difficulties in incorporating renewable energy

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<sup>11</sup> David A. Raitzer et al., "Southeast Asia and the Economics of Global Climate Stabilization" (Mandaluyong City, Metro Manila: Asian Development Bank, 2015), p 43.

<sup>12</sup> Cherie Gray and Thomas Haller, "The Economics of Climate Change: Impacts for Asia," Swiss Re Group, May 21, 2021. <https://www.swissre.com/risk-knowledge/mitigating-climate-risk/economics-of-climate-change-impacts-for-asia.html>

<sup>13</sup> Ibid.

<sup>14</sup> Robert Rapier, "Fossil Fuels Still Supply 84 Percent Of World Energy - And Other Eye Openers From BP's Annual Review," Forbes (Forbes Magazine, June 25, 2020), <https://www.forbes.com/sites/rrapier/2020/06/20/bp-review-new-highs-in-global-energy-consumption-and-carbon-emissions-in-2019/>

<sup>15</sup> ACE, "The 6th ASEAN Energy Outlook (AEO6)", p. 18.

sources into their operations.<sup>16</sup> These industries are important to ASEAN. For example, ASEAN's steel industry produces 77% of the long products and 30% of the flat products consumed in Southeast Asia.<sup>17</sup> Vietnam and Indonesia are also large cement producers with a domestic production capacity of around 100 Mega Tonnes (Mt). Thailand produces 60Mt, and Malaysia and the Philippines produce around 33Mt. Each of these countries produces equal to or more than their domestic demand, which means that these industries are key to ASEAN's aspirations for greater infrastructure development.<sup>18</sup> Although carbon pricing might encourage Carbon Capture Units, switching to natural gas and alternative renewable energy technologies for these industries are still unavailable at the scale needed. As such, these industries are still heavily dependent on fossil fuels.

Moreover, renewable energy still faces challenges. For example, solar and wind generate energy intermittently due to varying environmental conditions,<sup>19</sup> making energy storage systems essential. However, energy storage systems face limitations like high costs, the low energy density of storage systems, complex maintenance, and the relatively varied efficiency levels of electricity storage and transmission.<sup>20</sup> ASEAN's power grids also require significant upgrading to incorporate electricity from renewable sources. In addition, the production, installation and disposal of solar panels, wind turbines and batteries are not themselves without a carbon footprint. This "carbon debt" must be paid off if they are to indeed reduce emissions over their lifecycles.

Although different fossil fuels emit different levels of carbon, they all have significant adverse impacts on the environment. From table 4, Coal (including anthracite, lignite, sub-bituminous, and bituminous) produce the most CO<sub>2</sub>, while diesel, gasoline, and natural gas produce less. Given that natural gas is the least carbon-intense fossil fuel, the fossil fuel industry markets it as a bridge fuel that can be used as an intermediary to fill in the gaps that renewable energy sources cannot meet in the short to medium term. If this were true, ASEAN could reduce the use of fossil fuels hierarchically, starting with coal and oil. In the long term, ASEAN could gradually phase out natural gas in its energy mix by identifying and classifying the sources of natural gas based on how much carbon was emitted during its production and transportation. However, even though natural gas emits less carbon dioxide than coal, it releases another greenhouse gas - methane, which traps about 120 times more heat than carbon dioxide. Fugitive methane emissions may also occur in production and transmission or distribution. That said, mitigation technologies for monitoring, as well as policies for monitoring, reporting, and repairing obligations exist, and should be applied strictly to allow the sustainable use of natural gas in the transition. Moreover, the extraction of natural gas is dangerous because it can threaten watersheds, poison drinking water, clog up streams, and pollute the air for miles around. Low-carbon alternatives like sustainably produced hydrogen fuel are also hazardous because of the low ignition energy and high combustion energy of hydrogen. Whilst hydrogen's safety risk can be mitigated, its sustainable production relies on the expansion of renewables, as the only carbon-free hydrogen

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<sup>16</sup> Scott Foster and David Elzinga, "The Role of Fossil Fuels in a Sustainable Energy System," *The Role of Fossil Fuels in a Sustainable Energy System* (United Nations, 2013), <https://www.un.org/en/chronicle/article/role-fossil-fuels-sustainable-energy-system>.

<sup>17</sup> Yeoh, Wee Jin. "The ASEAN Steel Industry Situation." Steel Committee Meeting Organisation for Economic Co-Operation and Development. March 19, 2020.

<sup>18</sup> Manas Tamotia, "Southeast Asia: Tough Times – Consolidation Ahead?" (Singapore: L.E.K. Consulting, 2019).

<sup>19</sup> Gautam Gowrisankaran, Stanley S. Reynolds, and Mario Samano, "Intermittency and the Value of Renewables Energy" (Cambridge, Massachusetts: National Bureau of Economic Research, 2011), 1.

<sup>20</sup> Liangzhong YAO et al., "Challenges and Progresses of Energy Storage Technology and Its Application in Power Systems," *Journal of Modern Power Systems and Clean Energy* 4, no. 4 (October 19, 2016): p. 521.

production relies on electrolysis based on renewables. Green hydrogen can be seen as a source of secondary electrification for hard-to-electrify sectors, whilst fossil-based hydrogen cannot be seen as a credible alternative to electricity. All in all, in the long term, ASEAN must move towards transitioning from less carbon-intensive fossil fuels to renewables.

Table 4. Kg of CO<sub>2</sub> emitted per million British thermal units (Btu) of energy by fuel type.<sup>21</sup>

Coal (anthracite)	103.69
Coal (lignite)	97.70
Coal (sub-bituminous)	97.20
Coal (bituminous)	93.03
Diesel fuel and heating oil	73.16
Gasoline (without ethanol)	71.30
Propane	63.04
Natural gas	53.07

In short, the energy transition journey in ASEAN will be complex as it encounters multiple overlapping constraints. A combination of levers must be used to facilitate the transition of industries that remain dependent on fossil fuels from using carbon intensive fossil fuels. Carbon capture technology and projects may help ASEAN achieve net-zero emissions in some of these economic and industry activities within AMS. These may include a Carbon Capture Utilisation Storage (CCUS) system whereby carbon is upcycled into chemicals, diamonds and fuels, or a Carbon Capture Storage (CCS) that stores carbon underground. However, these technologies are still costly and have yet to be tested at scale. Therefore, AMS should embark on other decarbonization measures in the meantime. In addition, this paper calls for policy frameworks that promote energy efficiency and support ASEAN's energy transition, such as government-led carbon pricing mechanisms to encourage companies to decarbonize.

## ASEAN'S ENERGY TRANSITION CHALLENGES

To help ASEAN accelerate its transition towards renewable energy and low carbon solutions, it is crucial to understand the challenges this region face. This paper identifies 5 challenges ordered based on what the Council sees as the most pressing challenges in achieving ASEAN's energy transition.

### 1. Impact of COVID-19 on Public Fiscal Capacity for Green Recovery

To control the COVID-19 outbreak and soften its economic impact, AMS have spent a large proportion of their fiscal budgets to ensure that lives and livelihoods are protected (see table 5).<sup>22</sup> Foreign currency reserves have shrunk and budgetary deficits have widened. Given that 75% of financing for green projects are currently from public funds, the key challenge for AMS would be to decide how and where to allocate scarce public

<sup>21</sup> U.S. Energy Information Administration, "How Much Carbon Dioxide Is Produced When Different Fuels Are Burned?," Frequently Asked Questions (FAQs) - U.S. Energy Information Administration (EIA), June 17, 2020, <https://www.eia.gov/tools/faqs/faq.php?id=73&t=11>.

<sup>22</sup> Joseph Incalcaterra, "ASEAN Budget Deficits Stay High: Insights," HSBC, December 6, 2020, <https://www.gbm.hsbc.com/insights/global-research/asean-budget-deficits-stay-high>.

funds as they gear towards economic recovery.<sup>23</sup> As the pandemic is far from over, future rounds of fiscal stimulus packages can incorporate sustainable development and energy transition policies.

Table 5. Amount Spent on COVID-19 Fiscal Support by ASEAN Country in 2020.

	Country	Fiscal Support (USD - 2020)	% of GDP (2019)
1	Singapore	75 billion	20%
2	Thailand	49.69 billion	9.15%
3	Malaysia	27.81 billion	7.63%
4	Vietnam	12.03 billion	4.6%
5	Philippines	12.37 billion	3.3%
6	Brunei	337.24 million	2.5%
7	Cambodia	1.33 billion	5%
8	Myanmar	395.06 million	0.52%
9	Indonesia	504 million	0.045%
10	Laos	5.77 million	0.032%

## 2. Restricted Green Financing Ecosystem

While the number of sustainable infrastructure projects – including those involving renewable energy, are increasing, the financing of developing world sustainable infrastructure is limited and lacking sufficient private investment. Green financing is crucial in providing much needed up-front capital to develop large renewable energy infrastructure projects in ASEAN. Despite ASEAN having an estimated US\$3 trillion worth of green finance opportunities between 2016 and 2030, the cumulative ASEAN issuance of green loans and bonds is US\$13.4 billion from 2013 to 2019. This makes up only 0.45% of the region’s green finance opportunities.<sup>24</sup> DBS Bank noted that, between 2016 and 2030, the current average annual supply of green finance is around US\$40 billion, while the average annual demand is US\$200 billion.<sup>25</sup> The growth rate of green finance issuance in ASEAN is increasing rapidly, though it is not growing fast enough to ensure that there is a sufficient supply of capital to fully meet ASEAN’s green investment opportunities by 2030.<sup>26</sup> Furthermore, given that 75% of green finance is from public funds, the strained government budget caused by COVID-19 will significantly impact the green finance flows in the near future.<sup>27</sup> Thus, ASEAN needs to not only ramp up the flows of green finance but also needs to encourage greater private green investments. Some of the challenges identified by members of the Council include:

- the lack of a standardised taxonomy surrounding sustainable finance,
- the lack of performance data disclosure,

<sup>23</sup> DBS Bank, “Green Finance Opportunities in ASEAN” (Singapore: DBS Bank & UNEP, 2020), p 13.

<sup>24</sup> DBS Bank, “Green Finance Opportunities in ASEAN”, p 13; Cedric Rimaud et al., “ASEAN Green Finance State of the Market 2019” (Singapore: Climate Bonds Initiative, 2020), p 1.

<sup>25</sup> DBS Bank, “Green Finance Opportunities in ASEAN”, p 13.

<sup>26</sup> ASEAN Working Committee on Capital Market Development, “Report on Promoting Sustainable Finance in ASEAN” (Kuala Lumpur: ASEAN, 2020), pp. 3-7.

<sup>27</sup> DBS Bank, “Green Finance Opportunities in ASEAN”, p 13.

- relatively higher credit and capital market risks,
- a lack of high-quality renewable energy projects in the pipeline that would be attractive to private investors,
- a reliance on project finance and a lack of capital market instruments to channel funds into multiple projects; and
- increased concerns of political instability.

The above challenges contribute to the uncertainty and high investment risks associated with developing world sustainable infrastructure, which in turn impede the flow of private investment.

Thus, while ASEAN has a tremendous potential to foster a vibrant and robust green finance ecosystem, a restricted green finance ecosystem poses a significant roadblock that ASEAN and businesses need to collaborate closely to overcome.

That said, ASEAN member states are taking steps to plug the gaps in green finance. For example, Malaysia's Bank Negara Malaysia issued the "Climate Change and Principle-based Taxonomy Discussion Paper" in 2019 as a guidance for financial institutions in identifying and classifying economic activities that contribute to climate change objectives. More recently, Singapore's central bank – the Monetary Authority of Singapore - has engaged in developing a more detailed taxonomy defining projects and companies that would qualify for green finance.

While Singapore and Malaysia's national green finance taxonomies represent leadership within ASEAN in developing taxonomies domestically, the Council believes that an ASEAN-wide taxonomy is crucial for an orderly and effective regional transition towards sustainable finance. We acknowledge the intention of ASEAN Finance Ministers and Central Bank Governors to develop an ASEAN Taxonomy for Sustainable Finance (ASEAN Taxonomy),<sup>28</sup> and are optimistic about its potential to provide a coherent and common framework for sustainable finance within which AMS can implement or enhance their national sustainability initiatives. We look forward to seeing progress in its development by the end of 2021.

Further, since 2019, ASEAN Member States such as Singapore and Indonesia have participated in the International Platform on Sustainable Finance. The IPSF is a multilateral forum that was created in support of the World Bank, the EU, and 16 other partner countries to share and align sustainable finance regulatory measures. Through the forum, members can exchange and disseminate information to promote best practices, compare their different initiatives, and identify barriers and opportunities of sustainable finance, while respecting national and regional contexts. We would support a broader ASEAN and AMS participation in the initiative and, where appropriate, greater alignment on sustainable finance initiatives and approaches.

### 3. Conflicting Priorities to Enable Growth of Renewable Energy and Low Carbon Energy Solutions

The transition towards renewable energy will be difficult without robust public policies that regulate and incentivise its growth and adoption. Currently, some AMS have been

<sup>28</sup> ASEAN Finance Ministers and Central Bank Governors, "Joint Statement of the 7th ASEAN Finance Ministers and Central Bank Governors' Meeting (AFMGM)", p.5.

more proactive in putting forward regulatory and fiscal policies to promote the growth and adoption of renewable energy than others (see table 6).

Table 6. Summary of AMS regulatory and fiscal policies to promote the growth and adoption of renewable energy.<sup>29</sup>

Type of Policy		BN	KH	ID	LA	MY	MM	SG	TH	PH	VN
Regulatory Policies	Renewable energy in Intended Nationally Determined Contributions	•	•	•	•	•	•	•	•	•	•
	Renewable Energy Targets	•	•	•	•	•	•	•	•	•	•
	Feed-in-Tariffs/Auctions/Premium Payment		•	•		•			•	•	•
	Net Metering/Billing/Direct Consumption supply			•		•		•		•	•
	Biofuel blend obligation/mandate/target			•		•			•	•	•
	Electric Utility quota obligation/RPS			•		•				•	•
	Tradable Renewable Energy Certificate										•
Fiscal Incentives and public financing	Tax Incentives		•	•	•	•			•	•	•
	Public Investment/loans/grants/subsidies /rebates			•	•	•	•	•	•	•	•
	Reduction in sales, CO <sub>2</sub> , VAT or Taxes			•		•			•	•	•
	Tendering			•		•	•	•		•	
	Investment or Production Tax Credits			•						•	•
	Energy Production Payment								•	•	

The effectiveness of public policies is just as important as the size of the policy portfolio. The 6<sup>th</sup> ASEAN Energy Outlook found that many AMS' policies and fiscal can be

<sup>29</sup> Roman Vakulchuk et al., "Singapore: How to Attract More Investment in Renewable Energy?," vol. 11 (Jakarta: ASEAN Centre for Energy, 2020), p. 2.

improved through more stable policies, clearer and less complicated permitting processes, and stronger regulations and incentives.<sup>30</sup>

In most AMS, the current power purchasing agreement frameworks do not incentivise investment in power projects fuelled by renewable energy sources. This is because a government-controlled entity (e.g., Indonesia's PLN and Malaysia's Tenaga Nasional) that oversees and regulates the power market sets power purchase agreements with independent power producers. These agreements mean that the state-controlled utility pays a fixed payment (capacity payment) to the independent power producer irrespective of the actual amount of electricity generated. This incentivizes the state-controlled utility to use these independent power producers, even if they are powered by fossil fuels. Hence, policymakers need to consider and adopt more competitive and sustainable power purchase arrangements that enable investment in economically viable renewable energy projects in AMS.

#### 4. Continued Subsidy of Fossil Fuels

Indonesia, Brunei, Malaysia, Thailand, and Vietnam allocate a considerable amount of their GDP on costly fossil fuel subsidies (see table 7). Spending scarce public funds on fossil fuel subsidies constrains the growth and adoption of renewable energy and low carbon energy solutions in ASEAN as they make renewable energy artificially more expensive than fossil fuels.<sup>31</sup> Moreover, fossil fuel subsidies divert public funds that could be used to invest in renewable energy and low carbon solutions projects or other public goods.<sup>32</sup>

Targeted policy support and industry drive since 2010 have spurred a remarkable decrease in the costs of renewable electricity from solar and wind power, which are now competitive with that of fossil fuels. Specifically, between 2010 and 2020, the global weighted-average LCOE (levelised cost of energy) of utility-scale solar PV for newly commissioned projects fell by 85%, while onshore and offshore wind projects fell by about half (56% and 48% respectively) (Figure 2).<sup>33</sup> The global weighted-average LCOE of bioenergy for power projects experienced some volatility in the same period, but ended the decade at about the same level it began, which was a figure at the lower end of the cost of electricity from new fossil fuel-fired projects. The global weighted-average LCOE of hydropower rose by 18%, which was still lower than the cheapest new fossil fuel-fired electricity option, and that of geothermal power has ranged between USD 0.071/kWh and USD 0.075/kWh since 2016. In 2020, this figure was at the lower end of this range, at USD 0.071/kWh, having declined 4% year-on-year. The results of an LCOE study in ASEAN similarly found that the LCOE generated from various forms of renewable energy could compete with that of electricity generated from conventional fuels.<sup>34</sup> In short, without taking into account subsidies, taxation, and other incentives, the costs of renewables are now cheaper or similar to that of fossil fuels.

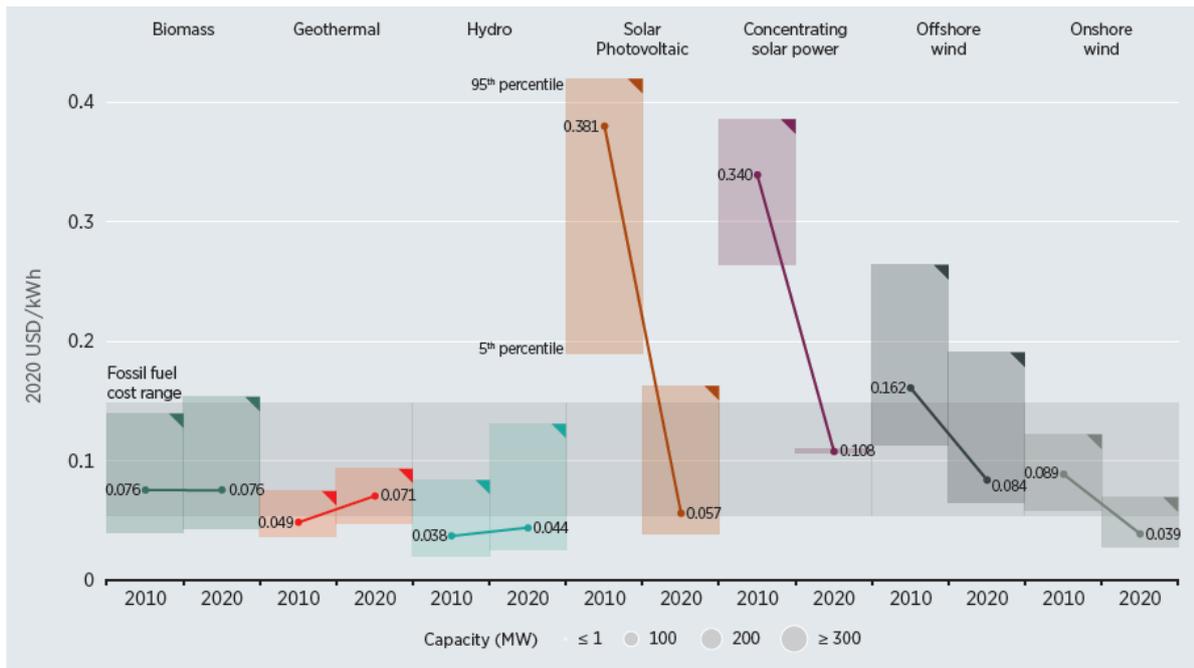
<sup>30</sup> ACE, "The 6th ASEAN Energy Outlook", p. 131.

<sup>31</sup> Richard Bridle and Lucy Kitson, "The Impact of Fossil-Fuel Subsidies on Renewable Electricity Generation" (Winnipeg, Manitoba: International Institute of Sustainable Development, 2014), pp. 5-9.

<sup>32</sup> Donald P. Kanak, "For Health and Climate: Retiring Coal-Fired Electricity and Promoting Sustainable Energy Transition in Developing Countries," PIFS International, p.9

<sup>33</sup> IRENA (2021), Renewable Power Generation Costs in 2020, International Renewable Energy Agency, Abu Dhabi, p. 14.

<sup>34</sup> ACE, "Levelised Costs of Electricity (LCOE) for Selected Renewable Energy Technologies in the ASEAN Member States II," ASEAN Centre for Energy (ACE), February 2019.



Source: IRENA Renewable Cost Database

Note: This data is for the year of commissioning. The thick lines are the global weighted-average LCOE value derived from the individual plants commissioned in each year. The project-level LCOE is calculated with a real weighted average cost of capital (WACC) of 7.5% for OECD countries and China in 2010, declining to 5% in 2020; and 10% in 2010 for the rest of the world, declining to 7.5% in 2020. The single band represents the fossil fuel-fired power generation cost range, while the bands for each technology and year represent the 5th and 95th percentile bands for renewable projects.

Figure 2. Global LCOE trends from newly commissioned, utility-scale renewable power generation technologies from 2010 to 2020, screengrab from IRENA Renewable Cost Database

Table 7. Cost of Fossil Fuel Subsidies by ASEAN country for 2018.<sup>35</sup>

Country	Fossil Fuel Subsidy (% of GDP - 2018)	Actual Value - 2018 (in USD)	Actual Value per Capita - 2018 (in USD)
Indonesia	3.1	32.3 Billion	120.65
Brunei	1.7	230.6 Million	537.58
Malaysia	0.6	2.2 Billion	69.78
Thailand	0.3	1.5 Billion	21.63
Vietnam	0.3	735 Million	7.69

## 5. Underdeveloped Power Grid Capacity for Renewable Energy Integration

Power grids are crucial in the transmission of renewable energy to households and industries. As the AMS actively work towards their APAEC renewable energy targets,

<sup>35</sup> Clément Payerols, "Energy Transition Issues within ASEAN," August 2020; International Energy Agency, "Energy Subsidies," 2020, <https://www.iea.org/topics/energy-subsidies>.

they must ensure that their power grids can account for the increased demand and generation of intermittent electricity from renewable energy. Seeing how Vietnam, as one of ASEAN's leading countries in renewable energy development, has struggled from its underdeveloped grid, power grids must develop in step with renewable energy expansion.<sup>36</sup> Doing so will also strengthen AMS' power networks as they work towards implementing the ASEAN Power Grid.

Moreover, the uneven distribution of economic activities between urban and rural areas has resulted in an uneven access to power supplies. In archipelagic AMS like Indonesia and Philippines, many regions still do not have stable access to electricity. Consequently, these regions often use small-scale diesel fuel. To ensure decarbonization across the country, electricity grids capable of providing renewable energy must be able to reach sparsely populated areas.

## 6. Protecting and Supporting Affected Communities

The EU has developed a Just Transition Mechanism (JTM) to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind. The JTM provides targeted support to people in industries and regions, such as coal mining regions, which will suffer the greatest socio-economic impacts of the transition. ASEAN will need to consider developing a similar tool, either at the regional level or in each AMS. This will require funding, which can come from both public and private sector sources as set out in the Energy Transition Mechanism below.

## RECOMMENDATIONS

To assist ASEAN in overcoming the challenges it faces in its energy transition, this paper believes that bolstering ASEAN's sustainable finance ecosystem warrants AMS' most urgent attention amongst the other recommendations the Council has proposed. Viable low-carbon technologies already exist for most industries. The bigger issue is improving AMS' access to these technologies at a reasonable cost, while managing the socio-economic effects of change. On this note, the EU has the practical resources and expertise to provide technological and financial support. More importantly, the rapid success and feasibility of the following recommendations is premised on the commitment of stakeholders in ASEAN (i.e., governments, industry players and state-owned entities such as power generation companies) in ensuring their implementation and seeing them through operation.

This section is split into 2 portions – (1) Strengthening ASEAN's Sustainable Finance Ecosystem, which aims to provide practical-driven solutions to attract more private capital into green projects and (2) Challenges and Recommendations Framework, which aims to provide high-level recommendations to the other challenges of ASEAN's energy transition journey highlighted in this paper.

### Strengthening ASEAN's Sustainable Finance Ecosystem

#### Energy Transition Mechanism

The EU-ABC advocates for an Energy Transition Mechanism (ETM) as a practical recommendation in helping AMS transition to renewable energy and low carbon energy solutions.

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<sup>36</sup> Joyce Lee and Feng Zhao, "Global Wind Report 2019" (Brussels: Global Wind Energy Council, 2020), p. 52.

The ETM is a financial mechanism championed by Prudential that aims to retire carbon-intensive fossil fuel-run power plants earlier than their intended lifespan (see figure 3).<sup>37</sup> The ETM is formed for a specific country and comprises two complementary facilities: The Carbon Reduction Facility (CRF), and the Clean Energy Facility (CEF).

The ETM would be funded by long-term investors with low costs of funds, e.g. developed country governments, national development finance institutions, multilateral banks, all of which have especially low funding costs in the current low/negative interest rate environment. There is potential to blend those public sources with private sector investment and philanthropic or impact capital. Instead of developing a new and costly bureaucracy to oversee the ETM, ASEAN could form a study group with existing global or regional multilateral development banks (MDBs) to explore the potential of MDBs acting as the lead shareholder and administrator that drives the establishment of each AMS' ETM based on their different national circumstances.<sup>38</sup> In return for ETM investment and technical assistance, the developing country (and its energy and climate authorities) would commit to an agreed schedule for replacement of carbon-intensive power, with agreed standards for energy access and security, alongside programs to ensure a just transition for affected stakeholders. These agreements would also require strong provisions to ensure follow-through and to prevent the building of new coal-fired power plants.

Current owners of carbon-intensive power assets would contribute their assets towards the CRF in exchange for cash and potentially equity or debt in the ETM. Those utility asset owners, which in many cases are state-owned power companies, would be expected to use the cash for renewables investments and just transition. The power assets placed under the CRF's supervision continue to operate for an agreed period which is shorter than the asset's current expected lifetime, but long enough to pay back the ETM investors/lenders. In parallel, the CEF collaborates with the national authorities and power sector to provide finance, technology assistance and know-how to accelerate renewables. As the CEF builds up renewable energy capacity and storage, the CRF retires its assets.

If the ETM can be proven feasible in specific countries, it would be a practical way to retire at least 50% of existing carbon-intensive power assets, dramatically scale up demand for renewable energy (see figure 4) and provide resources for just transition. If well integrated with national development plans, the ETM would also create sustainable jobs to support a green recovery from the impacts of COVID-19.

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<sup>37</sup> Donald Perry Kanak, "How to Accelerate the Energy Transition in Developing Countries," World Economic Forum, January 25, 2021, <https://www.weforum.org/agenda/2021/01/how-to-accelerate-the-energy-transition-in-developing-economies>

<sup>38</sup> Donald Kanak, "How to replace coal power with renewables in developing countries," Eco-Business, June 5, 2020, <https://www.eco-business.com/opinion/how-to-replace-coal-power-with-renewables-in-developing-countries/>

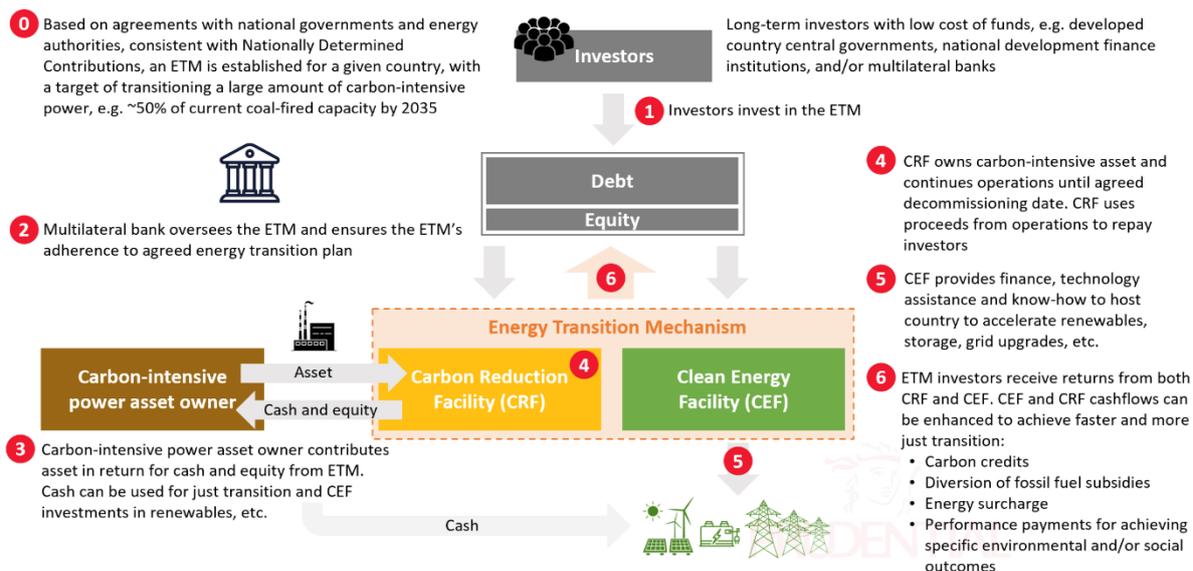


Figure 3. How Energy Transition Mechanism would work, by Donald Kanak, from <https://www.weforum.org/agenda/2021/01/how-to-accelerate-the-energy-transition-in-developing-economies>.

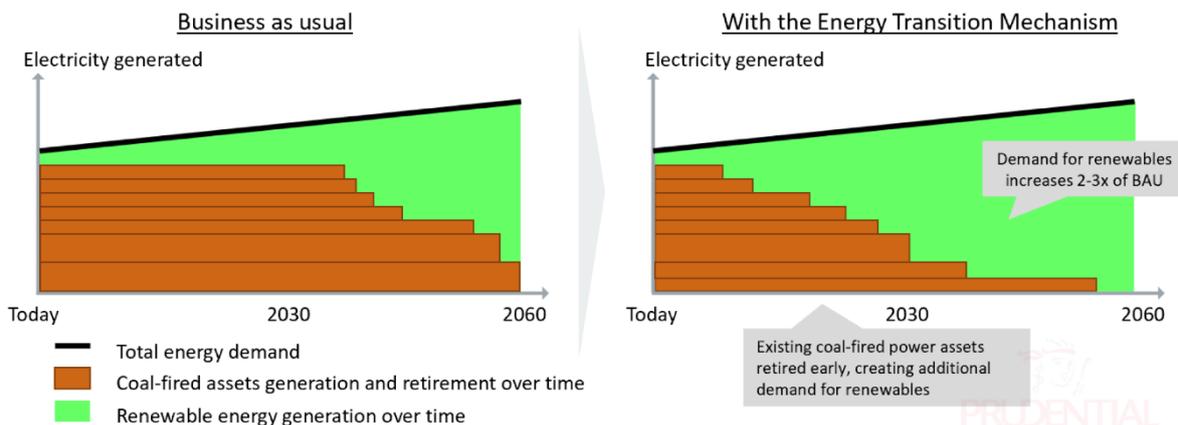


Figure 4. How the ETM accelerates the retirement of carbon-intensive assets while boosting demand for renewable energy as the total energy demand increases, by Donald Perry Kanak, from <https://www.weforum.org/agenda/2021/01/how-to-accelerate-the-energy-transition>

Thus, we strongly urge ASEAN to tailor the ETM to Southeast Asia's unique and dynamic circumstances and launch a project with the goal of a nation-wide rollout.

### De-risking Green Investments

The major impediment to attracting private investment has been identified as the high investment risks associated with developing world sustainable infrastructure. Hence, this paper recommends (1) the de-risking of green projects and (2) the development of a sustainable infrastructure labelling system which also contributes to reducing the uncertainty and risks surrounding sustainable infrastructure investment.

Firstly, investments in developing regions like ASEAN inevitably carry higher risks. Consequently, the costs of financing projects in ASEAN can be close to double that of those in developed

countries (see figure 5).<sup>39</sup> In order for green investment mechanisms like the ETM to be feasible, investment costs in ASEAN must be reduced. This is because lower investment costs would translate to a lower levelised cost of electricity from newer renewable energy sources, which means more competitive utilities prices from electricity generated from renewable sources as compared to fossil fuel. Thus, de-risking green projects is critical to achieving success in ASEAN's energy transition.

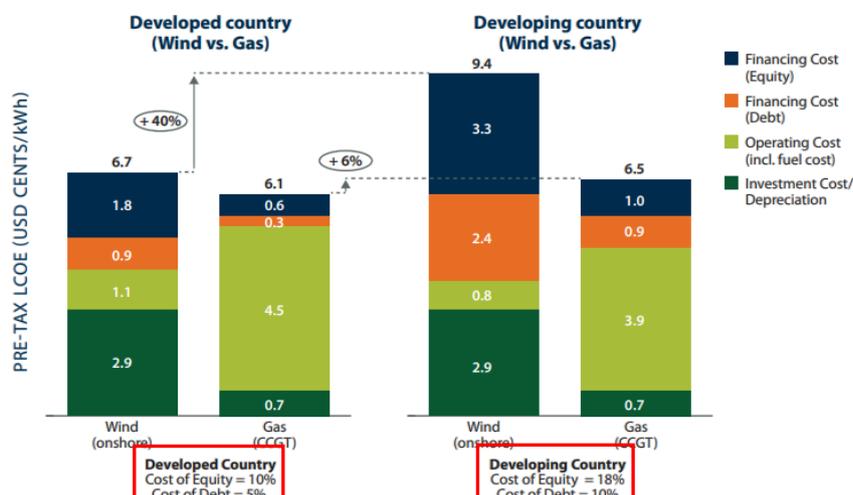


Figure 5. The Impact of financing costs on wind and gas power generation costs in Developed vs Developing countries, from "Derisking Renewable Energy Investment" by United Nations Development Programme, 2013, p.12.

AMS can de-risk green projects using 2 main instruments – (1) Public Policy Derisking Instrument, (2) Financial De-risking Instrument.

The Public Policy De-risking Instrument focuses on removing the underlying barriers that heighten investment risks. Such barriers can exist in the form of public policies that are unfriendly to investments or inefficient bureaucratic processes. Examples of Public Policy De-risking Instruments include passing **policies that guarantee grid access for new renewable energy sources, easing foreign ownership restrictions, or streamlining permit issuance processes.**

Policies that **mandate the disclosure of the performance data of sustainable infrastructure** would also increase transparency and reduce the risks and uncertainties of private investment. A lack of understanding and quantification of the benefits (revenue, resultant economic activity, and environmental and socio-health benefits) and risks of infrastructure projects in the planning and financing stages, and the absence of quantitative data on the financial and risk performance of infrastructure projects in the investment evaluation process,<sup>40</sup> increases the risks and uncertainties of private investment.

To reduce these risks and uncertainties, there must be mandatory obligations to disclose the ESG performance data of infrastructure projects across their full life-cycles. However, a consensus on the sorts of disclosures that the issuers of securities should make to their investors must first be achieved. The Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability

<sup>39</sup> O. Weissbein et al., "Derisking Renewable Energy Investment. A Framework to Support Policymakers in Selecting Public Instruments to Promote Renewable Energy Investment in Developing Countries." (New York, New York: United Nations Development Programme, 2013), 12.

<sup>40</sup> "Increasing private sector investment into sustainable city infrastructure," PwC and Global Infrastructure Facility, January 2020, p.12

Accounting Standards Board (SASB) are two organisations that have begun the crystallisation of such a consensus. The SASB provides a clear set of industry-specific metrics and standards for reporting ESG information. On the other hand, the TCFD evaluates company exposure to and management of climate-related risks and opportunities, and references SASB Standards as an appropriate framework by which to fulfill the TCFD recommendations.

Based on such a uniform agreed-upon standard, stock markets and funding models for sustainable infrastructure projects must include mandatory obligations for ESG data disclosure and assessment. This, as well as public-private agreements that share risks and rewards between both sectors, will help mobilise finance towards sustainable infrastructure, which will in turn improve the quality of sustainable infrastructure projects in the region. To ensure the success of AMS' public investment into green investments, the Council recommends AMS study as many Public Policy De-risking Instruments as possible and select the best fitting instrument for their context.

Financial De-risking Instruments are meant to transfer financial risks to another actor. Utilising Financial De-risking Instruments shifts the risk-reward profile of an investment more favourably to the investor with a higher prospective rate of returns. The Council commends ASEAN for innovating a financing and de-risking initiative called the ASEAN Catalytic Green Finance Facility (ACGF). The ACGF provides public loans and technical assistance to public green infrastructure projects to catalyse private capital into these projects. This initiative recognises that public funds (which makes up 75% of the total investment in green projects) is not sufficient and it is crucial to attract private capital.<sup>41</sup> The United Nations Development Programme further stressed the need for a stronger public-private partnership to attract private capital, mentioning that **“In order to successfully scale-up renewable energy in developing countries, it is clear that private sector investment must be at the forefront”**.<sup>42</sup>

As such, to further attract more private sector investment, the Council recommends that AMS seek to **enhance the adoption of insurance in the planning and investment process**. For example, green investments could include construction insurance against delays and non-completion, or climate risk insurance against residual risks related to weather and natural catastrophe events, to mitigate the risks involved in constructing and operating new renewable energy infrastructure. Generally, this would significantly reduce the risk profile of green investments, reduce the cost of financing which increases financial returns, make decarbonisation mechanisms like the ETM more feasible, attract more private investments, and lower the LCOE of renewable energy to make renewable sources more price competitive than fossil fuel sources (see figure 6). Reinsurance would also create an opportunity for large-scale investments to be pooled to accelerate and achieve scale.

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<sup>41</sup> “ASEAN Green Catalytic Facility,” *ASEAN Green Catalytic Facility* (Madaluyong, Philippines: Asian Development Bank, 2020), 4.

<sup>42</sup> O. Waissbein et al., “Derisking Renewable Energy Investment”, 11.

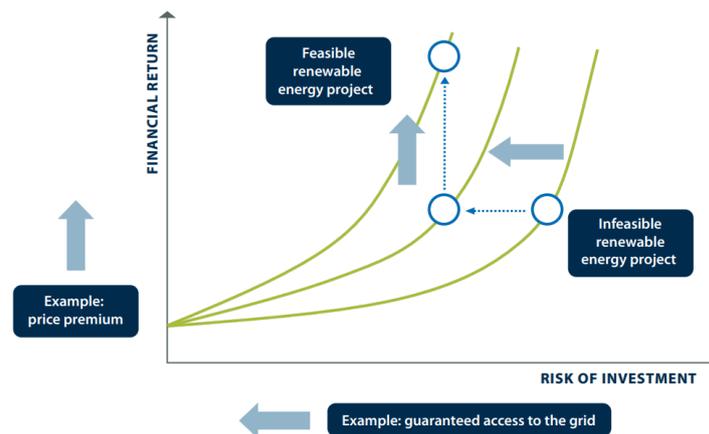


Figure 6. Utilising Policy and Financial De-risking Instruments can enhance the feasibility of renewable energy projects, from "Derisking Renewable Energy Investment," by United Nations Development Programme, adapted from Glemarec (2011), by United Nations Development Programme, 2013, p.13.

Secondly, there is currently no avenue through which investors can verify which assets are genuinely sustainable. Thus, the Council calls for the development of a sustainable infrastructure labelling system that (1) assesses sustainability issues over the whole lifecycle of an asset, (2) helps the market easily signal asset sustainability, and (3) through a globally applicable label, transforms sustainable infrastructure into a mainstream, standardised, liquid asset class. Such a label could be based upon the recommendations or best practices of the IPFS (International Platform on Sustainable Finance) to make it compatible or comparable with the EU Taxonomy. The label would help investors make capital allocation choices that indeed support ASEAN's transition to a sustainable economy.

A prime example of a sustainable infrastructure labelling system is the public-private initiative, Finance to Accelerate the Sustainable Transition-Infrastructure (FAST-Infra), which is conceived by Climate Policy Initiative (CPI), HSBC, the International Finance Corporation (IFC), OECD and the Global Infrastructure Facility.<sup>43</sup> It aims to raise private investment in developing world sustainable infrastructure. However, the FAST-Infra label is underpinned by *standards for sustainable infrastructure* that are in turn mapped around the high-level work done on *principles for sustainable infrastructure* and the detailed *EU taxonomy* (see figure 7).<sup>44</sup> Given that the EU taxonomy was developed primarily for the EU and sets a high bar for many technologies, it may be overly testing for the emerging economies in ASEAN.<sup>45</sup> Instead, a sustainable infrastructure labelling system that is developed for the developing world and based on the recently-endorsed ASEAN taxonomy, would be a realistic and achievable target that still meets the goal of shifting the developing world infrastructure market to a higher quality equilibrium. Consequently, not only would governments and project developers be incentivised to embed ESG into new infrastructure in ASEAN at the design and pre-construction phases, the label would also attract private finance at the construction phase and new institutional investors at the post-construction phase.<sup>46</sup>

<sup>43</sup> Ridley, Michael, "FAST-Infra; a public-private initiative to raise private investment in developing world sustainable infrastructure," HSBC Centre of Sustainable Finance, p.3.

<sup>44</sup> Ibid, p.7.

<sup>45</sup> Ibid.

<sup>46</sup> Ibid, p.8

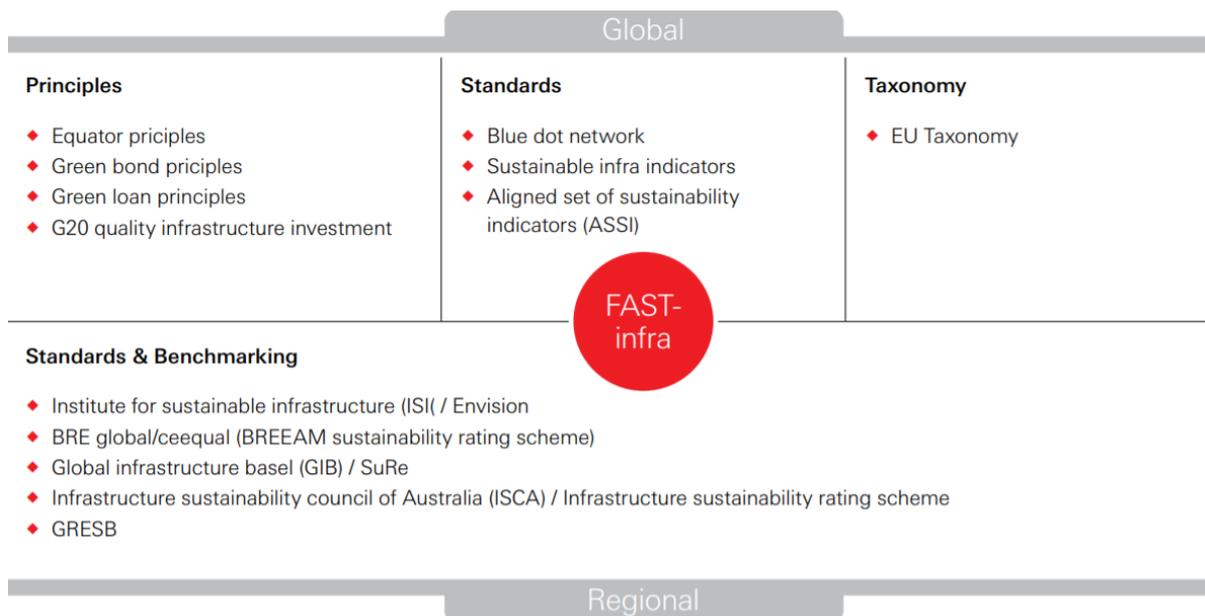


Figure 7. Global or regional initiatives on sustainable infrastructure, screenshot from “FAST-Infra; a public-private initiative to raise private investment in developing world sustainable infrastructure,” by Dr Michael Ridley, HSBC Centre of Sustainable Finance, p.7.

### Carbon Pricing Mechanism

In addition to phasing out fossil fuel subsidies and repurposing them to subsidise renewable energy and low carbon solutions projects, carbon pricing is another mechanism that can harness market forces to encourage investments in low-carbon technology and infrastructure. A carbon pricing mechanism, in the form of a carbon tax or fee, a cap-and-trade system or emissions trading scheme that depends on governments allotments or permits, would create fiscal incentives for companies and governments to lower their emissions by switching to more efficient processes or cleaner fuels.

In a nutshell, further progress in ASEAN’s sustainable finance ecosystem would benefit from closer public-private collaboration on data disclosure and project risk allocation, and a more consistent and coherent system for assessing and communicating priority ESG elements of sustainable infrastructure in financial markets.

## CHALLENGE-RECOMMENDATION FRAMEWORK

	Challenges	Recommendations
1	Impact of COVID-19 on Public Fiscal Capacity for Green Recovery	<ol style="list-style-type: none"> <li>1. Strengthening ASEAN’s Sustainable Finance Ecosystem               <ol style="list-style-type: none"> <li>a. Work closely with the private sector and other financial institutions (e.g. Sovereign Wealth Funds, multilateral banks, International Development Agencies, etc.) to <b>develop an ASEAN-specific Energy Transition Mechanism with a view towards national implementation.</b></li> <li>b. <b>Increase the amount of Public Policy Derisking Instruments being implemented</b> to improve the regulatory climate for private sector investors. This includes policies that guarantee grid access for new renewable energy sources, easing foreign ownership restrictions, streamlining permit issuance processes, public-private collaboration to develop clear policies for <b>performance data disclosure</b> and multi-stakeholder engagement with the private sector to align energy and climate policies based on APAEC targets and the ASEAN Comprehensive Recovery Framework.</li> <li>c. <b>Enhance the adoption of Financial Derisking Instruments</b>, such as insurance for renewable energy projects, projects that involve the decommissioning of legacy carbon-intense fossil fuel electric plants, and public equity co-investments to improve the risk-reward profile for private investors.</li> <li>d. <b>Develop an ASEAN-wide green finance taxonomy</b> to enhance the transparency of green investments for private investors.</li> <li>e. <b>Develop a sustainable infrastructure labelling system</b> that complements an ASEAN taxonomy, to incentivise governments and project developers to embed ESG standards throughout the lifecycle of new developing world infrastructure and mobilise private finance into developing world sustainable infrastructure assets.</li> </ol> </li> <li>2. <b>Support government-led carbon pricing mechanism</b> that will enable member states to meet goals of the Paris Agreement. Furthermore, encourage member state governments to adopt mechanisms that help ASEAN economies to be linked internationally, <b>promote increased ambition in reducing emissions and create incentives to invest in low-carbon technology and infrastructure.</b></li> <li>3. Policymakers to consider and adopt <b>more competitive and sustainable power purchase arrangements</b> that</li> </ol>
2	Restricted Green Financing Ecosystem	
3	Conflicting Priorities to Enable Growth of Renewable Energy and Low Carbon Energy Solutions	

		enable investment in economically viable renewable energy projects in AMS.
4	Continued Subsidy of Fossil Fuels	1. <b>Begin phasing out fossil fuel subsidies</b> , particularly when oil prices are low due to the COVID-19 pandemic, to ensure a more level-playing field, and repurpose fossil fuel subsidies to invest in renewable energy and low carbon solutions projects or other public goods.
5	Underdeveloped Power Grid Capacity for Renewable Energy Integration	1. <b>Engage the private sector in the rapid expansion of AMS' electrification network</b> , particularly in rural areas. 2. <b>Engage the private sector to ensure power system flexibility</b> so that grid capacity is scalable and able to integrate new sources from renewable energy.
6	Protecting and supporting affected communities	1. <b>Establish a Just Transition Mechanism</b> for ASEAN to provide support to affected communities. 2. <b>Establish a Just Transition Fund</b> and loan facility to mobilise funds for investment in affected communities.

## ABOUT THE EU-ASEAN BUSINESS COUNCIL

The EU-ASEAN Business Council (EU-ABC) is the primary voice for European business within the ASEAN region. It is formally recognised by the European Commission and accredited under Annex 2 of the ASEAN Charter as an entity associated with ASEAN.

Independent of both bodies, the Council has been established to help promote the interests of European businesses operating within ASEAN and to advocate for changes in policies and regulations which would help promote trade and investment between Europe and the ASEAN region. As such, the Council works on a sectorial and cross-industry basis to help improve the investment and trading conditions for European businesses in the ASEAN region through influencing policy and decision makers throughout the region and in the EU, as well as acting as a platform for the exchange of information and ideas amongst its members and regional players within the ASEAN region.

The EU-ABC conducts its activities through a series of advocacy groups focused on particular industry sectors and cross-industry issues. These groups, usually chaired by a multi-national corporation, draw on the views of the entire membership of the EU-ABC as well as the relevant committees from our European Chamber of Commerce membership, allowing the EU-ABC to reflect the views and concerns of European business in general. Groups cover, amongst other areas, Insurance, Automotive, Agri-Food & FMCG, IPR & Illicit Trade, Market Access & Non-Tariff Barriers to Trade, Customs & Trade Facilitation and Pharmaceuticals.

### Executive Board

The EU-ABC is overseen by an elected Executive Board consisting of corporate leaders representing a range of important industry sectors and representatives of the European Chambers of Commerce in South East Asia.

### Membership

The EU-ABC's membership consists of large European Multi-National Corporations and the eight European Chambers of Commerce from around Southeast Asia. As such, the EU-ABC represents a diverse range of European industries cutting across almost every commercial sphere from car manufacturing through to financial services and including Fast Moving Consumer Goods and high-end electronics and communications. Our members all have a common interest in enhancing trade, commerce and investment between Europe and ASEAN.



To find out more about the benefits of Membership and how to join the EU-ASEAN Business Council please either visit [www.eu-asean.eu](http://www.eu-asean.eu) or write to [info@eu-asean.eu](mailto:info@eu-asean.eu).





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2021

Issued by the EU-ASEAN  
Business Council  
August 2021

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