Sustainable Bonds

Taking Stock of Sustainable Financing

In the wake of the pandemic, there is increased awareness of sustainable issues and a rising policy agenda of governments. Global sustainable bond market has grown significantly and poised to maintain the momentum amid rising investors' commitment to ESG. Malaysia's sustainable bond market while nascent has room to grow driven by investor demand and regulator support. Credit assessment and disclosures need catching up.

Growing Influence. Global issuance of sustainable bonds grew from <USD50b in 2015 to USD323b in 2019 and in ASEAN, green bond issuance doubled to USD8.1b in 2019 (2018: USD3.9b). Signatories of UN PRI have also grown to 3,370 as of 27 Sep 2020 and they collectively control >USD103t of AUM. With so many funds at stake, financial markets cannot afford to ignore ESG issues.

Malaysia Sustainable Bond: Nascent Stage, Room to Grow. Over 2017-2019, Ringgit sustainable bond issuance maintained a healthy pace of MYR1-2b per year, but just 1-2% of yearly total PDS issuance. We think Ringgit sustainable bond issuance will continue to grow driven by 1) increasing awareness among investors with EPF, KWAP and Khazanah, which together have >MYR1t AUM, being UN PRI signatories and having to incorporate the 6 Principles, 2) regulatory push from BNM, SC and Bursa, 3) broadening beyond renewable energy projects, and 4) BPAM ESG Bond Index a point of reference for sustainable bond performance.

ESG Implications on Credits and Rating. ESG factors that impact corporate bond yield/spread the most is governance, followed by environmental and social, according to a survey by the CFA Institute and UN PRI. On ratings, the 3 major international agencies have started to incorporate ESG, directly or indirectly, into their credit rating decisions, but an ESG issue may not necessarily result in rating action. In Malaysia, RAM and MARC provide ESG analysis but the sustainable ratings are discrete from credit ratings and assessments.

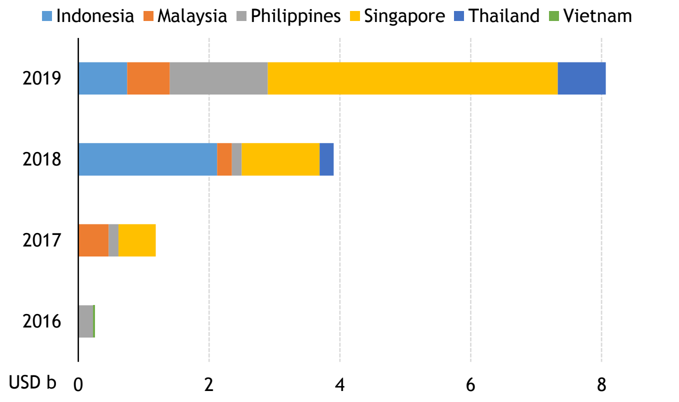
What's Needed to Push Further? 1) Standardization of ESG taxonomy, 2) More disclosures and quality data, 3) Sovereign Issues, and 4) Evolving instruments. With the issue of greenwashing and gap in ESG disclosures, external party reviews or second opinions play an important role in verifying sustainable bonds and frameworks.

Analysts

Winson Phoon, ACA
(65) 6812 8807
winsonphoon@maybank-ke.com.sg

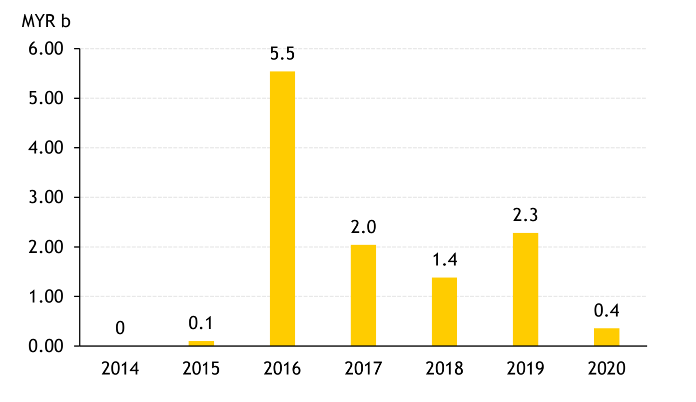
Se Tho Mun Yi
(603) 2074 7606
munyi.st@maybank-ib.com

ASEAN: Singapore Led Green Bond Issuance in 2019



Source: Climate Bonds Initiative
**Reflects country of issuing entity*
***Green bond label can be applied to any debt format, including private placement, securitisation, covered bond, and sukuk. The key is the use of proceeds are for financing 'green' assets.*

Malaysia: Nascent Stage - Sustainable Bond Issuance Totalled MYR1-2b Per Annum (1-2% of Total PDS) in 2017-2019



Source: BPAM, Maybank KE
**2020 is YTD as of 29 Sep*

Co. Reg No: 198700034E MICA (P) : 099/03/2012

Growing Influence

We live in a world in which a tree is worth more, financially, dead than alive, in a world which a whale is worth more dead than alive. For so long as the economy works that way and corporations go unregulated, they're going to continue to destroy trees, to kill whales, to mine the earth, and to continue to pull oil out of the ground, even though we know it is destroying the planet.

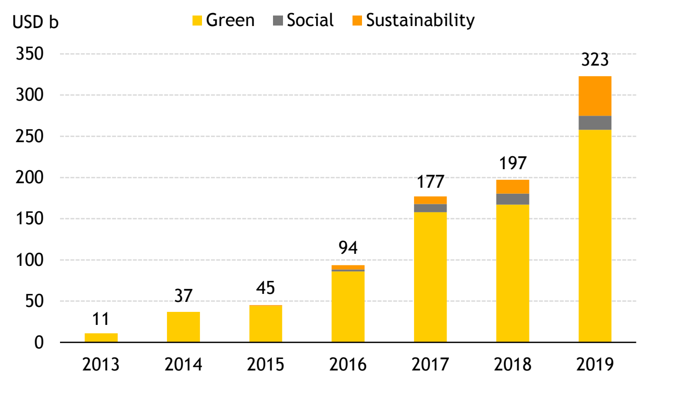
Justin Rosenstein, The Social Dilemma, Netflix

Increasing Focus on Environment, Social and Governance (ESG). In the wake of the pandemic, there is increased awareness of sustainable issues and a rising policy agenda of governments. China's stronger climate pledge in a virtual United Nations (UN) gathering on 22 Sep 2020 shows one of the largest energy financiers and markets is planning to shift away from fossil fuels. Increasing commitment from investors and banks towards responsible investing and lending, and pressure from regulators and policy makers will continue to drive strong issuance of sustainable bonds. The emergence of new labels and innovative structures will help spur further growth of sustainable finance.

Global Issuance. Global issuance of green, social and sustainability bonds (collectively sustainable bonds) have grown significantly over the last 5 years from <USD50b in 2015 to USD323b in 2019. A key catalyst was the Paris Agreement on Climate Change in 2016 and global sustainable bond volume doubled that same year, mainly driven by China issuers. Over 2016-2019, sustainable bond issuance grew at a CAGR of 51%. European issuers remain the key contributor of green bonds, accounting for 45% of global volumes, followed by Asia Pacific and North America with 23% each.

ASEAN Issuance. ASEAN green bond and loan issuance doubled in 2019 to USD8.1b from USD3.9b in 2018, albeit making up just 3% of global volume and 12% of Asia Pacific volume. The growth was mainly driven by Singapore issuers, which accounted for 55%, and were largely real estate deals such as green/ energy efficient buildings. Singapore now has the largest green finance market in ASEAN with cumulative issuance of USD6.2b, followed by Indonesia USD2.9b, Philippines USD2.0b, Malaysia USD1.3b, Thailand USD0.95b, while Vietnam market is minute with just USD0.03b.

Global: Green, Social, Sustainability Bond Issuances Have Grown Significantly Since 2016



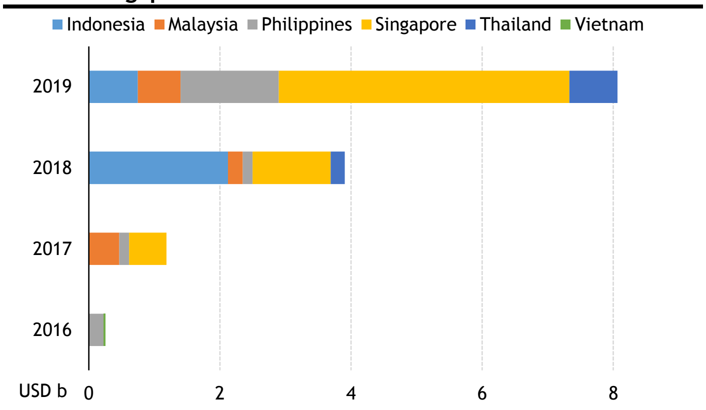
Source: Moody's

Green bond: At least 95% of proceeds must be dedicated to green assets or projects aligned with the Climate Bonds Taxonomy.

Social bond: Generally issued in accordance with International Capital Market Association's (ICMA) Social Bond Principles.

Sustainability bond: Combined projects with green and social elements and generally issued in accordance with ICMA's Sustainability Bond Guidelines.

ASEAN: Singapore Led Green Bond Issuance in 2019



Source: Climate Bonds Initiative

**Reflects country of issuing entity*

***Green bond label can be applied to any debt format, including private placement, securitisation, covered bond, and sukuk. The key is the use of proceeds is for financing 'green' assets.*

Rising Funds' Commitment to ESG

Institutional investors' commitment to ESG is key. Since the UN launched the Principles for Responsible Investment (PRI) in 2006, which garners investors' commitment to incorporate ESG considerations into their investment and ownership decisions, signatories have grown from about 100 to 3,370 as of 27 Sep 2020. Funds that are committed to UN PRI are required to implement the 6 Principles that include investment process, ownership policy, disclosure, promotion of PRI and reporting of progress.

In ASEAN, Singapore takes the lead with 32 signatories, followed by Malaysia with 9, Indonesia with 5, Thailand with 3 and Vietnam with just 1. **These global signatories collectively controlled USD103t of assets under management (AUM) in 2Q2020. For fixed income, 160 institutional investors with >USD30t AUM and 21 credit rating agencies** have shown support for the ESG in Credit Risk and Ratings Initiative. With so much at stake, the financial industry cannot afford to ignore ESG issues.

In Malaysia, EPF, KWAP and Khazanah, which collectively control over MYR1t AUM, are signatories to UN PRI and as such, are expected to incorporate ESG in their investment analysis and decision-making processes (Principle 1). These large government-linked investment funds' sway in the domestic financial market and outsourcing of investments will also help promote ESG practices to external asset managers (Principle 4: promoting acceptance and implementation of the principles within the investment industry). There are no details on their target allocation to sustainable finance while below are some brief statements.

- **EPF:** Traditionally excluded alcohol, tobacco, gambling, weaponry and nuclear power. The signing of UN PRI will reinforce EPF's commitment towards ESG and sustainable investing principles, laying the foundations for stronger environmentally-friendly and socially conscious practices, on top of sound corporate governance among its investee companies.

- **KWAP:** ESG guidelines are based on a holistic view applied across investment practices, pension services and support functions. Comprise 7 pillars – environment, human capital, governance, investment management, members administration, ethical practices and social. This expands beyond negative screening for investments in alcohol, gaming, swine, chemical weapons, states under UN Embargo Environmental Degradation, amongst others.

- **Khazanah:** Responsible Investment Policy, developed in 2019, is a framework of principles and commitments towards responsible investment, taking into account ESG factors to aid management of risk, and generate long-term, sustainable returns. Khazanah, via its special purpose vehicle Ihsan Sukuk Bhd (Ihsan), issued the world's first Ringgit sustainable and responsible investment (SRI) sukuk programme of MYR1b in 2015 under the Securities Commission's (SC) SRI Framework.

Shortcomings. While the signing of UN PRI is expected to lead to an increase in ESG investments, a study by Soohun Kim of College of Business, Korea Advanced Institute of Science and Technology (KAIST) and Aaron Yoon of Department of Accounting Information & Management, Northwestern University on active managers' commitment to ESG found: 1) Signatory funds experience fund inflows, regardless of prior ESG performance; 2) PRI funds on average do not exhibit improvements in fund-level ESG scores after signing, while showing a drop in portfolio return and alpha; 3) Signatories vote less on environmental issues and stock holdings experience increased environment-related controversies; and 4) Smaller, younger funds with higher historical alpha are more likely to sign PRI, but only quant-driven and institution-only funds improve ESG post signing.

According to the same study, several reasons that may have contributed to it: 1) Funds that sign may have already actively incorporated ESG and are superior performers; 2) ESG is difficult to quantify with disagreements in measurements; 3) Lack of demand from asset owners who deem ESG issues as financially immaterial; and 4) Execution of UN PRI is subjective and largely voluntary.

The shortcomings highlight that more needs to be done, such as better communication from asset managers on ESG strategy and execution. On the positive side, UN PRI is the largest global financial market initiative to incorporate ESG and sustainable investing.

ASEAN Signatories of UN PRI

Country	Signatory	Year	Country	Signatory	Year
Singapore	ASEAN China Investment Fund LP	2009		Tsao Family Office Pte. Ltd.	2019
	Arisaig Partners (Asia) Pte Ltd	2010		Fullerton Fund Management Company Ltd.	2020
	EFA Group	2013		UOB Asset Management Ltd.	2020
	Equis Pte. Ltd	2014		Antler	2020
	Scientific Beta Pte Ltd	2016		UOB Venture Management Private Limited	2020
	Paia Consulting	2016		Lion Global Investors Limited	2020
	Gateway Partners	2017		Helicap Investments	2020
	Hansabay Pte Ltd	2017	Malaysia	Corston-Smith Asset Management	2008
	SilkRoad Property Partners	2017		Khazanah Nasional Berhad (Khazanah)	2017
	Axiom Asia Private Capital	2017		Navis Capital Partners Limited	2018
	Albizia Capital Pte Ltd	2017		Xeraya Capital	2018
	Asia Research and Engagement	2017		Retirement Fund (Incorporated) (KWAP)	2018
	Capital Governance (S) Pte Ltd	2017		Principal Asset Management (SEA)	2019
	Avanda Investment Management	2017		Singular Asset Management	2019
	Kotak Mahindra Asset Management	2018		BIMB Investment Management Bhd	2019
	Eastspring Investments	2018		Employees Provident Fund (EPF)	2019
	Triple P Capital	2018	Indonesia	Kehati - The Indonesian Biodiversity Foundation	2009
	Spot Energy	2018		Corfina Capital	2015
	Panarchy Partners	2019		PT Batavia Prosperindo Aset Manajemen	2016
	AGP Sustainable Real Assets Pte Ltd	2019		PT. Asabri (Persero)	2017
	White Oak Capital Group	2019		PT Bina Investama Infonet	2018
	EASTvine Capital	2019	Thailand	Thaipat Institute	2016
	Cedargold Pte. Ltd.	2019		Government Pension Fund of Thailand	2018
	Impact Credit Solutions Pte Ltd	2019		Constant Energy Group Holding Limited	2018
	Maitri Asset Management	2019	Vietnam	VinaCapital Investment Management Ltd	2018

Source: UN PRI
**As of 28 May 2020*

Signatories for Banking Sector: UN Principles for Responsible Banking. Recognizing the importance of the roles that banks play in funding economic activities thereby their influence on ESG initiatives, on 22 Sep 2019, the UN launched the Principles for Responsible Banking (PRB) with 132 banks from 49 countries as founding signatories. The list has since grown to 187 banks as of 7 Sep 2020. Among them are 2 Malaysian banks (CIMB Bank in 2019 and Bank Pembangunan Malaysia in 2020), 1 Thailand bank (Kasikornbank in 2020) and 1 Philippines bank (Development Bank of the Philippines in 2019). There are 6 Principles to which signatory banks need to adhere. Another move towards sustainable banking, large Asian banks have been exiting from financing new coal power plants.

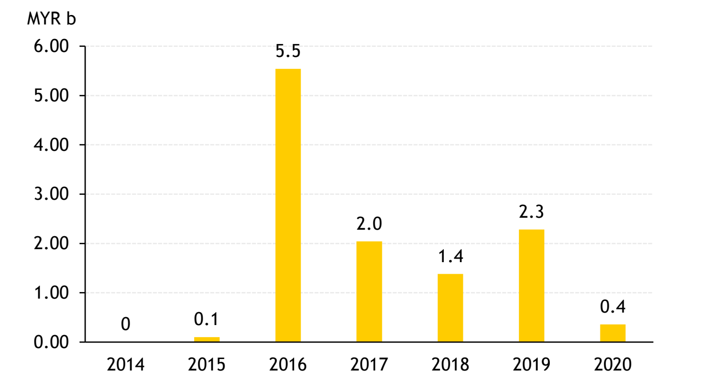
Malaysia Sustainable Bond: Nascent Stage, Room to Grow

For Ringgit sustainable bond issuance, we included green bonds as classified by Climate Bonds Initiative, bonds/sukuk in line with SC's SRI Framework or other market accepted ESG standards, and ESG-related bonds not under any sustainability standard/framework, such as Ihsan, HSBC Amanah, Cypark Renewable and Bakun. Taking 2014 as the start of Malaysia's sustainable bond market, Bakun's GG bonds issued in 2013 were excluded. See table below for a full list.

Nascent Stages. The maiden Ringgit sustainable bond was Ihsan's MYR100m SRI sukuk issuance in 2015 which followed SC's release of its SRI Sukuk Framework in 2014. Issuance rose to MYR5.5b in 2016 solely due to a refinancing issuance by Bakun, the largest hydro power plant in Malaysia with (2,400MW capacity). 2017 was another landmark year which saw the first rated SRI sukuk, Tadau's MYR250m SRI sukuk rated AA3 by RAM, and another 2 new issuers - QSP and PNB Merdeka. Over 2017-2019, sustainable bond issuance maintained a healthy pace of MYR1-2b per year, but this makes up just 1-2% of yearly total private debt securities (PDS) issuance. In YTD 2020, issuance slowed to just MYR0.4b as the pandemic stalled market activity.

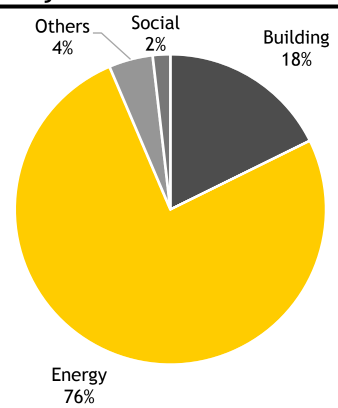
Ringgit Sustainable Bonds to Continue Growing. Domestic drivers towards ESG principles include 1) increasing awareness among investors with EPF, KWAP and Khazanah, which together have >MYR1t AUM, being UN PRI signatories and having to incorporate the 6 Principles, 2) a Joint Committee (JC3) by BNM and SC to manage climate risk exposures, 3) the SC SRI Roadmap to position Malaysia as a regional sustainable investment center, 4) Bursa mandating compulsory sustainability statements from listed companies, and 5) Malaysia a participant in UN's Sustainable Development Goals (SDG) initiative and targets 20% renewable energy mix by 2025.

Ringgit Sustainable Bond Issuance total MYR1-2b p.a in 2017-19, but accounts for just 1-2% of yearly total PDS issuance



Source: BPAM, Maybank KE
**2020 is YTD as of 29 Sep*

Outstanding Sustainable Bonds Skewed Towards Renewable Energy-Related Projects



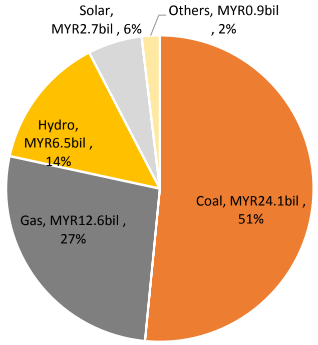
Source: BPAM, Maybank KE
**As of 29 Sep 2020*

Need to Broaden Beyond Renewable Energy. Renewable energy projects, namely solar and hydro power plants, make up >70% of total outstanding sustainable bonds of MYR10.9b as of 29 Sep 2020, albeit partly skewed by Bakun's huge MYR5.5b issue. There are a total of 15 sustainable bond issuers, of which 11 are in Energy, 2 in Buildings (Segi Astana and PNB Merdeka), 1 in Social (Ihsan) and 1 in Others (HSBC Amanah). Sustainable bonds need not be limited to renewable energy projects. Eligible SRI projects under SC's SRI Framework include other green and social projects such as socioeconomic advancement and empowerment, employment generation, access to essential services, waste management and adaptation of eco-efficient processes and technologies.

Coal Still a Major Source of Energy in Malaysia. We compiled the bonds of independent power producers (IPP) by energy type. Of the MYR46.7b total outstanding IPP bonds in our compilation, coal still accounts for the largest share at 51%, followed by gas 27% and hydro 14% while solar came fourth at 6%. Some IPPs may not be financed directly through the bond market. In 2019, Malaysia set a target of achieving 20% renewable energy generation from 2% in 2018, although it is unclear whether there will be any changes under the new government.

There have been no new coal IPP issuance in Malaysia since Jimah East Power in 2015 (operational in 2019). Newer IPP issuances were related to gas (SPR Energy, Southern Power, Edra Energy), solar (Tadau, QSP, Sinar Kamiri, UiTM Solar, Cypark Ref, Edra Solar, Leader Energy) and hydro (Telekosang).

Malaysia Power/IPP Bond: Outstanding Amount by Energy Type



Source: BPAM, Maybank KE
**Others include multi-fuel/various energy type*
***See Appendix for full list of bonds*

BPAM ESG Bond Index. Bond Pricing Agency Malaysia (BPAM) launched the country's first ESG Bond Index in 2019. The index comprises 168 bonds from 13 issuers with total market cap of MYR6.3b as of 29 Sep 2020. This is an important development as it serves as a reference point for investors to measure ESG performance as well as a comparison against conventional bond returns. To be included in the index, bonds need to be issued under or aligned with SC's SRI Sukuk Framework, ASEAN Green Bond Standard, ASEAN Social Bond Standard, ASEAN Sustainability Bond Standard or UN SDG. Index calculation is based on BPAM's evaluated mid prices.

List of Sustainable Bonds in Malaysia

Issuer	Issue Year	Issue Size (MYR m)	In BPAM ESG Bond Index	Second Opinion	Utilisation of Proceeds (UoP)
Bakun Hydro Power Generation Sdn Bhd (Bakun)	2016	5,540	No	n.a.	Hydro power plant
Cypark Ref Sdn Bhd	2019	550	Yes	n.a.	Solar power plant
Cypark Renewable Energy Sdn Bhd (Cypark Renewable)	2020	97	No	n.a.	Renewable projects
Edra Solar Sdn Bhd	2019	245	Yes	RAM	Solar power plant
HSBC Amanah Malaysia Bhd (HSBC Amanah)	2018	500	Yes	CICERO	HSBC Amanah's working capital and finance eligible businesses and projects in line with HSBC SDG Bond Framework
Ihsan Sukuk Bhd	2015	100	Yes	n.a.	Yayasan AMIR's Trust Schools Programme
	2017	100	Yes	n.a.	Yayasan AMIR's Trust Schools Programme
Leader Energy Sdn Bhd	2020	260	Yes	MARC	Solar power plant
Pasukhas Green Assets Sdn Bhd	2019	17	Yes	RAM	Green projects - 1st project is a hydropower plant
PNB Merdeka Ventures Sdn Bhd (PNB Merdeka)	2017	690	Yes	CICERO	Green building - Merdeka PNB118 Tower
	2019	880	Yes	CICERO	Green building - Merdeka PNB118 Tower
Quantum Solar Park (Semenanjung) Sdn Bhd (QSP)	2017	1,000	Yes	CICERO	Solar power plant
Segi Astana Sdn Bhd	2018	415	Yes	RAM	Green building - Gateway@KLIA2
Sinar Kamiri Sdn Bhd	2018	245	Yes	RAM	Solar power plant
Tadau Energy Sdn Bhd (Tadau)	2017	250	Yes	CICERO	Solar power plant
Telekosang Hydro One Sdn Bhd	2019	590	Yes	RAM	Hydro power plant
UiTM Solar Power Sdn Bhd	2018	222	Yes	CICERO	Solar power plant

Source: BPAM, Maybank KE
Bakun: No sustainability framework, but proceeds were used for hydro power plant
Cypark Renewable: Perpetual sukuk not under SC's SRI Sukuk Framework, but proceeds will be used for renewable energy projects
**As of 29 Sep 2020*

ESG Implications on Credits and Rating

Not a Sprint. Unlikely to see a drastic shift in bond portfolios towards sustainable investments in the near future as it may be impractical for some investors, such as those in ASEAN, to exclude or dispose all investments that do not align with their ESG values for the following reasons:

- **Not all markets are equal.** It is important to distinguish that countries are at different levels of ESG implementation. An example, Japan plans to shut 100 out of 140 coal plants by 2030, but it is not reasonable for Malaysia to do the same as 66% of Tenaga Nasional Bhd's power generation comes from coal power plants, while renewable energy (hydro, solar) accounts for just 3.5% and the remaining 30.5% is natural gas. The last bond maturity of a coal power plant is in 2038 (see Appendix for a list of Malaysia coal IPP bonds).

- **Insufficient selection.** The pool of available sustainable bond investments is still small at this juncture which means there is a lack of alternative replacements.

- **Financial return** is still a core mandate.

It is more likely investors will increase investment screening for ESG risks and become more active in engaging companies to address ESG issues and implement responsible business practices.

Will ESG impact prices and which factor matters most? A survey by the CFA Institute and UN PRI showed financial professionals in Asia Pacific think ESG issues will affect bond prices by 2022 and **factors that impact corporate bond yields/spreads the most is governance, followed by environmental and social.** This is not entirely a surprise as governance has to some extent already been incorporated into conventional credit analysis. Additionally, environmental and social risks are less disclosed and the impact could take a longer time to manifest. For sovereign debt yields, the same survey sees the impact more evenly distributed between the three ESG factors.

In Credit Analysis, the first step is identifying ESG risks. Below are examples of ESG issues for corporates and sovereigns. Our equity research has been building ESG tear sheets for stocks under Maybank KE coverage with market capitalization of >USD1b. Compared to equity, additional aspects should be taken into account for ESG in credit analysis such as bond tenor. Short-end bonds could still be an attractive investment if ESG risks are perceived to not materialize in the next 5 years, while long-end bonds may not be investible or would require higher yield.

Examples of Corporate ESG Issues by Maybank KE Research

Environment	Social	Governance
• ComfortDelGro plans to replace 50% of diesel taxi fleet with hybrids by 2020 and 100% by 2023. • KLCCP is committed to achieve 100% elimination of single-use plastics in Mandarin Oriental by Mar 2021 (2019: 65%). • Tenaga has significant coal exposure with coal accounting for over 50% of Peninsular Malaysia's generation mix. However, many of these coal plants are new and utilise ultrasupercritical technology. Meanwhile, the cost of insuring coal plants has risen by 10-20% annually in recent years.	• ComfortDelGro ranked 24 out of 100 leading companies for gender equality in Asia Pacific. • KLCCP has high gender diversity with 43% of women senior management leaders and 37% of overall women representation in its workforce. • Tenaga was found liable for causing flash floods at Cameron Highlands (Bertam Valley) in 2013 having discharged water from its hydroelectric dam following heavy rains. Tenaga has since proactively engaged preventive measures such as regular cleaning of reservoir and dam, and conducting annual flood evacuation drills.	• ComfortDelGro board of 10 directors comprise 1 executive officer (MD/CEO) and 9 non-executive & independent directors (including Chairman). 30% are female directors. • KLCCP and KLCCRM have adopted the policy to limit the tenure of Independent Non-Executive Directors up to 9 years. • At Jun 2020, Tenaga's board has 11 members, comprising of 1 Executive Director (President/CEO), 3 Non-Independent Non-Executive Directors (including Chairman) and 7 Independent Non-Executive Directors.

Source: Maybank KE Research

Examples of ESG Issues for Sovereign Bond

Environment	Social	Governance
• Effects of climate change • Water resources and pollution • Biodiversity • Energy resources and • management • Biocapacity and ecosystem quality • Air pollution • Natural disasters • Natural resources	• Human rights • Education and human capital • Health levels • Political freedoms • Demographic change • Employment levels • Life expectancy • Social exclusion and poverty/ • income disparity • Trust in society/institutions • Crime and safety • Food security	• Institutional strength • Corruption • Regime stability • Rule of law • Security • Regulatory effectiveness and • quality • Accounting standards • Freedom of the press • Political and civil liberties

Source: CFA Institute, UN PRI

Rating Agencies' Approach. The 3 major international rating agencies have started to incorporate ESG factors, directly or indirectly, into credit rating decisions. **But, an ESG issue may not necessarily result in a rating action. Strong ESG credentials do not necessarily indicate strong creditworthiness either.** For example, Fitch made several negative rating actions due to the pandemic, but its ESG Relevance Scores were barely changed. This suggests the overall impact of ESG factors on credit profiles remain limited and the usual credit drivers still play the primary role, such as liquidity and debt servicing ability, unless ESG issues lead to credit deterioration. **In Malaysia,** domestic rating agencies RAM and MARC provide ESG analysis but the sustainable ratings are discrete from credit ratings and assessments, while conventional credit assessment already includes corporate governance.

All 3 international rating agencies already have frameworks to incorporate ESG into credit rating decisions

Rating Agency	Fitch	Moody's	S&P
Approach	• Launched ESG Relevance Scores that show how ESG factors impact individual credit rating decisions • Fitch publishes the scores on its public domain • The scores are not value judgments on whether an entity engages in good or bad ESG practices, but draw out which ESG risk elements are influencing the credit rating decision	• Systematic integration of ESG into credit analysis and standalone ESG risk management • Seeks to include ESG in its credit analysis when ESG issues have become material credit implications for sectors and debt issuers	• Established a standalone "ESG Evaluation" that is based on a set of separate analyses and not part of its credit rating methodology • Incorporates ESG factors into its credit analysis if deemed material and relevant to creditworthiness • Potential ESG influence on ratings and outlooks differs across industries and depends on effects on capacity and willingness to meet financial commitments

Source: Rating agencies

Malaysian rating agencies have yet to directly incorporate E and S into credit ratings

Rating Agency	RAM	MARC
Approach	• RAM Sustainability Sdn Bhd provides ESG analysis, separate from credit assessment • RAM Sustainability became an Approved Verifier under the Climate Bonds Standard & Certification Scheme in August 2020 • Conventional credit rating assessment includes governance aspect	• New methodology for assessing green, social and sustainability bonds • Impact bond assessment (IBA) is separate from the agency's credit ratings • Governance already included in conventional credit rating assessment

Source: Rating agencies

What's Needed To Push Further?

ESG interest and adoption are clearly there, but sustainable finance is still in bourgeoning stages, making up just 4.5% of total global bond issuance in 2019 (2018: 3%), according to Moody's.

Standardization of ESG taxonomy. Differences in global standards of definitions, measurement and evaluation could lead to difficulties in interpreting ESG risks and impact. A more unified global standard will ensure broader acceptance by investors. In ASEAN, the ASEAN Capital Markets Forum (ACMF) released the ASEAN Green Bond Standards in Nov 2017 which is a set of guidelines based on the international Green Bond Principles. Key elements include:

- Issuer/issuance must have geographical or economic connection to ASEAN;
- Exclude fossil fuel power generation projects;
- Project selection process, use of proceeds and external review reports must be publicly available on designated website;
- Recommendation to obtain external review for green bond framework, particularly on management of proceeds and annual reports.

Recognizing other thematic labels beyond green finance, the ACMF also came up with ASEAN Social Bond Standards and ASEAN Sustainability Bond Standards released in Oct 2018. In addition to ACMF's standards, each country may come up with their own ESG standards more tailored towards specific requirements of both issuers and investors domestically. Malaysia has SC's SRI Sukuk Framework to support the development of a hub for green and sustainable sukuk, with 75% of outstanding green issuances being sukuk.

More Disclosures and Quality Data. Investors need access to quality, comparable and relevant ESG information that is easily available. There is no one-size-fits-all ESG disclosure, though standardization would improve quality, consistency and comparability. Global ESG reporting frameworks include the Sustainability Accounting Standards Board (SASB), the Global Reporting Initiative (GRI), Integrated Reporting (IR), and Task Force on Climate-Related Financial Disclosures (TCFD). At the individual country level, regulators and exchanges could have different obligations of disclosure levels on reporting companies. Below is a table with an overview of reporting frameworks by ASEAN countries. Among them, Singapore, Malaysia and Thailand lead in ESG reporting with high scores and ranking from CLSA's CG Watch 2018 and Corporate Knights ranking of stock exchanges based on ESG disclosures, while Indonesia and Philippines are behind.

Top 3 countries' ESG scores are higher than the 62.7 average of countries surveyed by CLSA

Country	ESG Score
Singapore	69.7
Malaysia	65.5
Thailand	62.8
Indonesia	52.0
Philippines	49.9

Source: CLSA CG Watch 2018

SET (Thailand) has a strong lead in quality of ESG reporting

Country	Rank
SET (Thailand)	#9
Bursa Malaysia	#22
SGX (Singapore)	#24
PSE (Philippines)	#30
ISE (Indonesia)	#36

Source: Corporate Knights

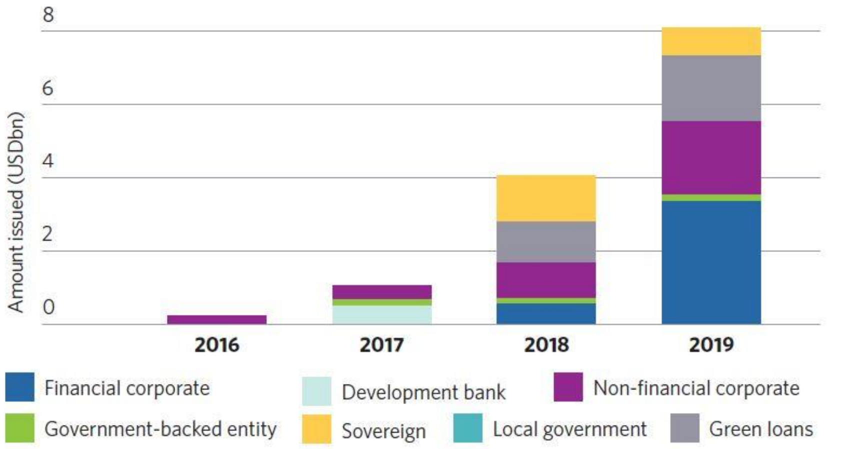
ESG Reporting Framework of Selected ASEAN Countries

Regulator	Comments
Malaysia	
Bank Negara	• Formed a Joint Committee with SC on Climate Change (JC3) in Sep 2019 • JC3 key mandates: 1) building capacity through sharing of knowledge, expertise and best practices in assessing and managing climate-related risks, 2) identifying issues, challenges and priorities facing the financial sector in managing the transition towards a low carbon economy, and 3) facilitating collaboration between stakeholders in advancing coordinated solutions to address arising challenges and issues • Developing a climate change taxonomy, which could require financial institutions to report exposure on climate risk. A test was done based on TCFD.
Securities Commission Malaysia (SC)	• Released SRI Roadmap in Nov 2019, a guideline to position Malaysia as a regional sustainable investment centre and includes a revised SRI Sukuk Framework. • SRI Roadmap has 5 strategies: 1) widen the range of SRI instruments, 2) increasing SRI investor base, 3) building strong SRI issuer base, 4) instilling strong internal governance culture, and 5) designing information architecture in the SRI ecosystem
Bursa Malaysia	• Listed companies required to have sustainability statements in annual reports since 2018 • References include GRI, SASB and IR • In 2019, Bursa reviewed the sustainability statements of a sub sample of listed companies with market cap of >MYR2b that were initially covered in 2017. Adherence and average quality scores improved to 98% (2017: 90%) and 73% (2017: 48%) respectively.
Singapore	
Monetary Authority of Singapore (MAS)	• Code of Corporate Governance states mandatory annual reporting on comply-or-explain basis. • Encompass board independence, diversity, responsibilities among others.
Singapore Exchange (SGX)	• Sustainability Reporting Guide, published in 2016, entails compulsory annual sustainability reporting for all listed companies on comply-or-explain basis. • No recommended KPIs and instead refers to GRI, IR and SASB for reporting standards. • Specific frameworks such as Climate Disclosure Standards Board, Carbon Disclosure Project or Roundtable on Sustainable Palm Oil may be considered. • Material and applicable E and S factors need to be covered.
Thailand	
Securities and Exchange Commission (SEC)	• Listed companies required to disclose corporate social responsibility activities since 2014 • Issued new Corporate Governance Code in 2017, replacing SET's 2012 Principles of Good Corporate Governance for listed companies. Sustainability reporting requires a framework appropriate and proportionate to the company's size and complexity.
Stock Exchange of Thailand (SET)	• Guidelines for Sustainability Reporting, published in 2010, based on GRI framework • Encourages ESG disclosures • KPI-based ESG disclosures on voluntary basis, but encouraged by SET as a competitive advantage, such as rewarding companies with awards.
Indonesia	
Indonesia Stock Exchange (ISE)	• No ESG reporting requirement or guidance for listed companies • Currently rely on Government Regulation No 47 on Corporate Social and Environmental Responsibility (CSER), 2012 • Listed companies required to report annually on CSER activities • Enforcement is weak • ISE is a member of UN Sustainable Stock Exchanges (SSEI) since Apr 2019

Source: CFA Institute, Regulators

More Sovereign Issues. Sovereign issuances account for 15% of total green bonds in ASEAN, solely contributed by Indonesia's green sovereign sukuk, the only one in ASEAN. Few green bond issuances by sovereigns could be due to difficulties in allocating proceeds solely to environmental-friendly projects. An established ESG framework at the sovereign level could help address this issue. Increase in sovereign sustainable issuance would help deepen the ESG market, encourage private sector and provide a benchmark for corporate sustainable bonds.

Financial institutions and corporates dominate ASEAN green issuance



Source: Climate Bonds Initiative

Government and Regulatory Support. The SC in Malaysia and MAS in Singapore have green bond grant schemes which subsidize issuer's costs incurred for external review up to a certain amount. In Malaysia, there is also tax deduction for expenses involved in the issuance of SRI sukuk until the year 2023. Dedicated allocation by governments and their related entities to sustainable funds could spur demand for sustainable bonds. In Nov 2019, MAS announced a USD2b green investment programme into funds with a green finance mandate. Malaysian government could also mandate institutional funds like EPF, KWAP and PNB to allocate a certain amount to funds with SRI mandates.

Evolving Instruments. Financial market started with green bonds that primarily relates to combating climate change. The growing ESG theme and evolving regulatory landscape led to new labels and structures, such as social and sustainability bonds and more recently transition bonds and sustainability-linked bonds/loans. In July 2020, Thailand's oil & gas major PTT issued green bonds under Climate Bond Initiative's land conservation and reforestation categories, an example of a transition bond as the company's business remains in fossil fuels while it raises green funds for the transition towards climate friendly projects.

Types of Sustainable Bonds

Type	Definition
Green Bond	• Green bonds and loans are debt instruments used to finance projects, assets and activities that support climate change adaptation and mitigation. • The label can be applied to any debt format, including private placement, securitisation, covered bond, and sukuk.
Social Bond	• Social bonds are generally issued in accordance with the International Capital Market Association's (ICMA) Social Bond Principles (SBP)
Sustainability bond	• Sustainability bonds combine projects with green and social elements and are generally issued in accordance with ICMA's Sustainability Bond Guidelines (SBG)
Transition bond	• Common theme is that proceeds are used to help carbon-intensive issuers become more sustainable over time • Broader range of projects that have sustainable development theme but not viewed as purely "green"
Sustainability-linked bonds/loans	• Fund general corporate purpose activities with interest margin typically linked to issuer's performance on predetermined ESG metrics • Benefits include issuer-centric focus on sustainability

Source: Climate Bond Initiative, Moody's, Maybank KE

Greenwashing. The term greenwashing refers to the process of conveying false or misleading information on a company's environmental friendly claims. As growth of sustainable investments has been given priority over stringency, in part due to a lack of standardization in taxonomy, skepticism has arisen over the validity of some companies' environmental claims. One case is the car manufacturer Volkswagen which has admitted to cheating emissions tests. Notwithstanding that, Volkswagen in Sep 2020 managed to sell EUR2b of its first green bonds based on a Green Finance Framework launched in March 2020.

Second Opinions and ESG Scoring. With the issue of greenwashing and the gap in ESG disclosures, external party reviews or second opinions play an important role in verifying sustainable bonds and frameworks. Service providers such as Sustainalytics, CICERO, Vigeo Eiris, RAM Sustainability and MARC provide independent second-party opinion (SPO) and/or certification on green bond issuance and frameworks. Sustainalytics also provide ESG risk ratings, scoring based on the company's ESG exposures and manageable and unmanageable risks.

Common SPO providers in ASEAN

Second Opinion Provider	Country	Type of Review
Sustainalytics	Indonesia, Philippines, Malaysia, Thailand, Singapore	SPO, Verification
CICERO	Indonesia, Malaysia, Singapore	SPO
DNV GL	Philippines, Thailand	Verification
RAM Sustainability	Malaysia	SPO, Verification
MARC	Malaysia	SPO
KPMG	Singapore	Verification

Source: Climate Bonds Initiative

Other challenges:

- **Complex and costly issuance process.** A key challenge for issuers is the additional disclosures of sustainable bonds compared to conventional bonds to demonstrate ESG credentials. The process of identifying eligible projects, annual reporting of ESG risks and impact, and external review of ESG frameworks and use of proceeds incur additional costs for sustainable bonds.

- **Lack of knowledge.** In Standard Chartered Private Bank's (StanChart) Sustainable Investing Review 2020, 98% percent of affluent investors were interested in sustainable investing, but 93% were apprehensive about investing in the area. Investors feel they still lack the knowledge on how to meet their social and impact goals.

- **Liquidity.** A chicken and egg situation, sustainable finance still accounts for less than 5% of total global bond issuance and the shallow pool of sustainable bonds entail potential concerns on liquidity.

Appendix

List of Malaysian Power Plant Bonds

Type	Issuer	Rating	Outlook	Outstanding (MYR m)	Last Maturity**
Power					
Coal	Jimah East Power Sdn Berhad	AA-	Stable	8,980	2038
Coal	Jimah Energy Ventures Sdn Berhad	AA3	Stable	1,220	2024
Coal	Manjung Island Energy Berhad	AAA	Stable	2,930	2031
Coal	Mukah Power Generation Sdn Berhad	AA1	Stable	105	2021
Coal	Special Power Vehicle Berhad	A1	Stable	372	2034
Coal	Tanjung Bin Energy Issuer Berhad	AA3	Stable	3,005	2032
Coal	Tanjung Bin Energy Sdn Berhad	-	Unrated	800	2024
Coal	Tanjung Bin Power Sdn Berhad	AA2	Stable	3,020	2029
Coal	TNB Western Energy Berhad	AAA	Stable	3,655	2034
Gas	Edra Energy Sdn Berhad	AA3	Stable	5,085	2038
Gas	Jati Cakerawala Sdn Berhad	A1	Stable	235	2023
Gas	Kimanis Power Sdn Berhad	AA-	Stable	660	2028
Gas	Ranhill Powertron II Sdn Berhad	AA	Stable	440	2029
Gas	Sarawak Power Generation Sdn Berhad	AA1	Stable	15	2021
Gas	Sepangar Bay Power Corporation Sdn Berhad	AA1	Stable	243	2026
Gas	Southern Power Generation Sdn Berhad	AA-	Stable	3,665	2035
Gas	SPR Energy (M) Sdn Berhad	AA3	Stable	515	2036
Gas	Teknologi Tenaga Perlis Consortium Sdn Berhad	AA1	Stable	280	2023
Gas	TNB Northern Energy Berhad	AAA	Stable	1,415	2036
Multi-fuel	Kapar Energy Ventures Sdn Berhad	AA+	Negative	790	2026
Green Power					
Hydro	Bakun Hydro Power Generation Sdn Berhad (fka Sarawak Hidro Sdn Berhad)	AAA	Stable	5,935	2031
Hydro	Telekosang Hydro One Sdn Berhad	AA3	Stable	590	2039
Hydro	Pasukhas Green Assets Sdn Berhad	-	Unrated	16	2029
Solar	Cypark Ref Sdn Berhad	AA3	Stable	550	2040
Solar	Edra Solar Sdn Berhad	AA2	Stable	245	2037
Solar	Quantum Solar Park (Semenanjung) Sdn Berhad	A+	Positive	930	2035
Solar	Sinar Kamiri Sdn Berhad	AA-	Stable	240	2036
Solar	Tadau Energy Sdn Berhad	AA3	Stable	227	2033
Solar	UiTM Solar Power Sdn Berhad	AA-	Stable	212	2036
Solar	Leader Energy Sdn Berhad	AA-	Stable	260	2038
Various	Cypark Renewable Energy Sdn Bhd	-	Unrated	97	2027

Source: BPAM, Maybank KE
**As of 1 Oct 2020*
***Last maturity or expected maturity*

Appendix *(continued)*

List of Labelled Green Bonds in ASEAN

Issuer	Issue Amount (USD m)	Issue Amount (Original Currency)	Issue Year
Indonesia			
Republic of Indonesia	750	n.a.	2019
PT Sarana Multi Infrastruktur	50	IDR500m	2018
Star Energy Group Holdings	580	n.a.	2018
TLFF I PTE Ltd	95	n.a.	2018
Republic of Indonesia	1250	n.a.	2018
OCBC NISP	150	n.a.	2018
Malaysia			
PNB Merdeka Ventures Sdn Bhd	105	MYR435m	2019
Cypark Ref Sdn Bhd	131	MYR550m	2019
Edra Solar Sdn Bhd	58	MYR245m	2019
Telekosang	208	MYR590m	2019
PNB Merdeka Ventures Sdn Bhd	108	MYR445m	2019
Pasukhas Group	39	MYR158m	2019
Universiti Teknologi Mara (UiTM)	57	MYR222m	2018
Mudajaya Group Berhad	63	MYR245m	2018
SEGI Astana Sdn Bhd	104	MYR415m	2018
PNB Merdeka Ventures Sdn Bhd	170	MYR690m	2017
Quantam Solar	236	MYR1000m	2017
Tadau Energy	58	MYR250m	2017
Philippines			
Ayala Corporation	400	n.a.	2019
BPI	101	CHF100m	2019
BPI	300	n.a.	2019
RCBC	287	PHP15b	2019
Ayala Corporation	110	n.a.	2019
Ayala Corporation	75	n.a.	2019
Ayala Corporation	225	n.a.	2019
China Banking Corp	150	n.a.	2018
BDO Unibank	150	n.a.	2017
Aboitiz Equity Ventures	226	PHP10.7b	2016
Singapore			
CapitaLand Commercial Trust	91	JPY10b	2019
Keppel REIT*	110	SGD150m	2019
Mapletree Commercial Trust*	491	SGD670m	2019
CapitaLand Mall Trust Management Ltd*	145	SGD200m	2019
Soilbuild Group Holdings*	180	SGD248m	2019
Keppel REIT*	370	SGD505m	2019
Oxley Holdings Plc*	87	EUR77m	2019
OCBC	342	AUD500m	2019
ICBC Singapore	563	EUR500m	2019
ICBC Singapore	149	CNY1b	2019
ICBC Singapore	1500	n.a.	2019
City Developments Limited*	74	SGD100m	2019
City Developments Limited*	295	SGD400m	2019
Sunseap Group*	37	SGD50m	2019
Frasers Property Limited*	876	SGD1200m	2018
Ho Bee Land*	256	GBP200m	2018
Sindicatum Renewable Energy*	20	PHP1060m	2018
Sindicatum Renewable Energy*	40	INR2536m	2018
DBS Group	500	n.a.	2017
City Developments Limited*	71	100	2017

Thailand			
Energy Absolute	98	THB3b	2019
Energy Absolute	130	THB4b	2019
Energy Absolute	97	THB3b	2019
BTS Group Holdings	408	THB13b	2019
B Grimm Power	153	THB5b	2018
TMB Bank	60	n.a.	2018
Vietnam			
Ho Chi Minh City Finance	23	VND525.5b	2016
People's Committee of Ba Ria Vung Tau Province	4	VND80b	2016

Source: Climate Bonds Initiative
**Green loans*
***As at end-2019*
n.a. - Not applicable

Research Offices

MACRO

Sadiq CURRIMBHOY
Head of Regional Macro Research
(65) 6231 5836
sadiq@maybank-ke.com.sg

ECONOMICS

Suhaimi ILIAS
Chief Economist
Malaysia | Philippines | Global
(603) 2297 8682
suhaimi_ilias@maybank-ib.com

CHUA Hak Bin
Regional Thematic Macroeconomist
(65) 6231 5830
chuahb@maybank-ke.com.sg

LEE Ju Ye
Singapore | Thailand
(65) 6231 5844
leejuye@maybank-ke.com.sg

Linda LIU
Singapore | Vietnam
(65) 6231 5847
lindaliu@maybank-ke.com.sg

Dr Zamros DZULKAFLI
(603) 2082 6818
zamros.d@maybank-ib.com

Ramesh LANKANATHAN
(603) 2297 8685
ramesh@maybank-ib.com

William POH
(603) 2297 8683
william.poh@maybank-ib.com

FX

Saktiandi SUPAAT
Head of FX Research
(65) 6320 1379
saktiandi@maybank.com.sg

Christopher WONG
(65) 6320 1347
wongkl@maybank.com.sg

TAN Yanxi
(65) 6320 1378
tanyx@maybank.com.sg

Fiona LIM
(65) 6320 1374
fionalim@maybank.com.sg

STRATEGY

Willie CHAN
Regional
(852) 2268 0631
williechan@kimeng.com.hk

Anand PATHMAKANTHAN
ASEAN
(603) 2297 8783
anand.pathmakanthan@maybank-ib.com

FIXED INCOME

Winson PHOON, ACA
(65) 6812 8807
winsonphoon@maybank-ke.com.sg

SE THO Mun Yi
(603) 2074 7606
munyi.st@maybank-ib.com

REGIONAL EQUITIES

Anand PATHMAKANTHAN
Head of Regional Equity Research
(603) 2297 8783
anand.pathmakanthan@maybank-ib.com

WONG Chew Hann, CA
Head of ASEAN Equity Research
(603) 2297 8686
wchewh@maybank-ib.com

ONG Seng Yeow
Research, Technology & Innovation
(65) 6231 5839
ongsengyeow@maybank-ke.com.sg

MALAYSIA

Anand PATHMAKANTHAN *Head of Research*
(603) 2297 8783
anand.pathmakanthan@maybank-ib.com
• Strategy

Desmond CH'NG, BFP, FCA
(603) 2297 8680
desmond.chng@maybank-ib.com
• Banking & Finance

LIAW Thong Jung
(603) 2297 8688 tjliaw@maybank-ib.com
• Oil & Gas Services- Regional
• Automotive

ONG Chee Ting, CA
(603) 2297 8678 ct.ong@maybank-ib.com
• Plantations - Regional

YIN Shao Yang, CPA
(603) 2297 8916 samuel.y@maybank-ib.com
• Gaming – Regional
• Media • Aviation

TAN Chi Wei, CFA
(603) 2297 8690 chiwei.t@maybank-ib.com
• Power • Telcos

WONG Wei Sum, CFA
(603) 2297 8679 weisum@maybank-ib.com
• Property

LEE Yen Ling
(603) 2297 8691 lee.yl@maybank-ib.com
• Glove • Ports • Shipping • Healthcare
• Petrochemicals

Kevin WONG
(603) 2082 6824 kevin.wong@maybank-ib.com
• REITs • Technology

Jade TAM
(603) 2297 8687 jade.tam@maybank-ib.com
• Consumer Staples & Discretionary

TEE Sze Chiah *Head of Retail Research*
(603) 2082 6858 szechiah.t@maybank-ib.com

Nik Ihsan RAJA ABDULLAH, MSTA, CFTe
(603) 2297 8694
nikmohdihsan.ra@maybank-ib.com
• Chartist

Amirah AZMI
(603) 2082 8769 amirah.azmi@maybank-ib.com
• Retail Research

SINGAPORE

Thilan WICKRAMASINGHE *Head of Research*
(65) 6231 5840 thilanw@maybank-ke.com.sg
• Banking & Finance - Regional
• Consumer

CHUA Su Tye
(65) 6231 5842 chuasutye@maybank-ke.com.sg
• REITs - Regional

LAI Gene Lih, CFA
(65) 6231 5832 laigenelih@maybank-ke.com.sg
• Technology • Healthcare

Kareen CHAN
(65) 6231 5926 kareenchan@maybank-ke.com.sg
• Transport

TAN Chin Poh *Head of Retail Research*
(65) 6231 5928 chinpoh@maybank-ke.com.sg

Eric ONG
(65) 6231 5924 ericong@maybank-ke.com.sg
• Retail Research

Matthew SHIM
(65) 6231 5929
matthewshim@maybank-ke.com.sg
• Retail Research

INDIA

Jigar SHAH *Head of Research*
(91) 22 4223 2632 jigars@maybank.com
• Strategy • Oil & Gas • Automobile • Cement

Neerav DALAL
(91) 22 4223 2606 neerav@maybank.com
• Software Technology • Telcos

Kshitiz PRASAD
(91) 22 4223 2607
kshitiz@maybank.com
• Banks

Vikram RAMALINGAM
(91) 22 4223 2607
vikram@maybank.com
• Automobile • Media

INDONESIA

Isnaputra ISKANDAR *Head of Research*
(62) 21 8066 8680
isnaputra.iskandar@maybank-ke.co.id
• Strategy • Metals & Mining • Cement
• Autos • Consumer • Utility

Rahmi MARINA
(62) 21 8066 8689
rahmi.marina@maybank-ke.co.id
• Banking & Finance

Aurellia SETIABUDI
(62) 21 8066 8691
aurellia.setiabudi@maybank-ke.co.id
• Property

Willy GOUTAMA
(62) 21 8066 8500
willy.goutama@maybank-ke.co.id
• Consumer

PHILIPPINES

Romel LIBO-ON
(63) 2 8849 8844
romel_libo-on@maybank-atrke.com
• Property

Fredrick De GUZMAN
(63) 2 8849 8847
fredrickdaniel.deguzman@maybank.com
• Consumer • Banking & Finance

THAILAND

Maria LAPIZ *Head of Institutional Research*
Dir (66) 2257 0250 | (66) 2658 6300 ext 1399
Maria.L@maybank-ke.co.th
• Strategy • Consumer • Materials • Services

Jesada TECHAHUSDIN, CFA
(66) 2658 6300 ext 1395
jesada.t@maybank-ke.co.th
• Banking & Finance

Kaushal LADHA, CFA
(66) 2658 6300 ext 1392
Kaushal.l@maybank-ke.co.th
• Oil & Gas – Regional
• Petrochemicals - Regional

Vanida GEISLER, CPA
(66) 2658 6300 ext 1394
Vanida.G@maybank-ke.co.th
• Property

Ekachai TARAPORNTIP *Head of Retail Research*
(66) 2658 5000 ext 1530
Ekachai.t@maybank-ke.co.th

Surachai PRAMUALCHAROENKIT
(66) 2658 5000 ext 1470
Surachai.p@maybank-ke.co.th
• Auto • Conmat • Contractor • Steel

Suttatip PEERASUB
(66) 2658 5000 ext 1430
suttatip.p@maybank-ke.co.th
• Media • Commerce

Jaroonpan WATTANAWONG
(66) 2658 5000 ext 1404
jaroonpan.w@maybank-ke.co.th
• Transportation • Small cap

Thanatphat SUKSRICHAVALIT
(66) 2658 5000 ext 1401
thanaphat.s@maybank-ke.co.th
• Media • Electronics

Wijit ARAYAPISIT
(66) 2658 5000 ext 1450
wijit.a@maybank-ke.co.th
• Strategist

Theerasate PROMPONG
(66) 2658 5000 ext 1400
theerasate.p@maybank-ke.co.th
• Equity Portfolio Strategist

Apiwat TAVESIRIVATE
(66) 2658 5000 ext 1310
apiwat.t@maybank-ke.co.th
• Chartist and TFEX

VIETNAM

Quan Trong Thanh
(84 28) 44 555 888 ext 8184
thanh.quan@maybank-kimeng.com.vn
• Banks

Le Nguyen Nhat Chuyen
(84 28) 44 555 888 ext 8082
chuyen.le@maybank-kimeng.com.vn
• Oil & Gas

Nguyen Thi Sony Tra Mi
(84 28) 44 555 888 ext 8084
mi.nguyen@maybank-kimeng.com.vn
• Consumer

Tyler Manh Dung Nguyen
(84 28) 44 555 888 ext 8180
dung.nguyen@maybank-kimeng.com.vn
• Utilities • Property

Nguyen Thi Ngan Tuyen
Head of Retail Research
(84 28) 44 555 888 ext 8081
tuyen.nguyen@maybank-kimeng.com.vn
• Food & Beverage • Oil & Gas • Banking

Nguyen Thanh Lam
(84 28) 44 555 888 ext 8086
thanhlam.nguyen@maybank-kimeng.com.vn
• Technical Analysis

APPENDIX I: TERMS FOR PROVISION OF REPORT, DISCLAIMERS AND DISCLOSURES

DISCLAIMERS

This research report is prepared for general circulation and for information purposes only and under no circumstances should it be considered or intended as an offer to sell or a solicitation of an offer to buy the securities referred to herein. Investors should note that values of such securities, if any, may fluctuate and that each security's price or value may rise or fall. Opinions or recommendations contained herein are in form of technical ratings and fundamental ratings. Technical ratings may differ from fundamental ratings as technical valuations apply different methodologies and are purely based on price and volume-related information extracted from the relevant jurisdiction's stock exchange in the equity analysis. Accordingly, investors' returns may be less than the original sum invested. Past performance is not necessarily a guide to future performance. This report is not intended to provide personal investment advice and does not take into account the specific investment objectives, the financial situation and the particular needs of persons who may receive or read this report. Investors should therefore seek financial, legal and other advice regarding the appropriateness of investing in any securities or the investment strategies discussed or recommended in this report.

The information contained herein has been obtained from sources believed to be reliable but such sources have not been independently verified by Maybank Investment Bank Berhad, its subsidiary and affiliates (collectively, "MKE") and consequently no representation is made as to the accuracy or completeness of this report by MKE and it should not be relied upon as such. Accordingly, MKE and its officers, directors, associates, connected parties and/or employees (collectively, "Representatives") shall not be liable for any direct, indirect or consequential losses or damages that may arise from the use or reliance of this report. Any information, opinions or recommendations contained herein are subject to change at any time, without prior notice.

This report may contain forward looking statements which are often but not always identified by the use of words such as "anticipate", "believe", "estimate", "intend", "plan", "expect", "forecast", "predict" and "project" and statements that an event or result "may", "will", "can", "should", "could" or "might" occur or be achieved and other similar expressions. Such forward looking statements are based on assumptions made and information currently available to us and are subject to certain risks and uncertainties that could cause the actual results to differ materially from those expressed in any forward looking statements. Readers are cautioned not to place undue relevance on these forward-looking statements. MKE expressly disclaims any obligation to update or revise any such forward looking statements to reflect new information, events or circumstances after the date of this publication or to reflect the occurrence of unanticipated events.

MKE and its officers, directors and employees, including persons involved in the preparation or issuance of this report, may, to the extent permitted by law, from time to time participate or invest in financing transactions with the issuer(s) of the securities mentioned in this report, perform services for or solicit business from such issuers, and/or have a position or holding, or other material interest, or effect transactions, in such securities or options thereon, or other investments related thereto. In addition, it may make markets in the securities mentioned in the material presented in this report. One or more directors, officers and/or employees of MKE may be a director of the issuers of the securities mentioned in this report to the extent permitted by law.

This report is prepared for the use of MKE's clients and may not be reproduced, altered in any way, transmitted to, copied or distributed to any other party in whole or in part in any form or manner without the prior express written consent of MKE and MKE and its Representatives accepts no liability whatsoever for the actions of third parties in this respect.

This report is not directed to or intended for distribution to or use by any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation. This report is for distribution only under such circumstances as may be permitted by applicable law. The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. Without prejudice to the foregoing, the reader is to note that additional disclaimers, warnings or qualifications may apply based on geographical location of the person or entity receiving this report.

Malaysia

Opinions or recommendations contained herein are in the form of technical ratings and fundamental ratings. Technical ratings may differ from fundamental ratings as technical valuations apply different methodologies and are purely based on price and volume-related information extracted from Bursa Malaysia Securities Berhad in the equity analysis.

Singapore

This report has been produced as of the date hereof and the information herein may be subject to change. Maybank Kim Eng Research Pte. Ltd. ("Maybank KERPL") in Singapore has no obligation to update such information for any recipient. For distribution in Singapore, recipients of this report are to contact Maybank KERPL in Singapore in respect of any matters arising from, or in connection with, this report. If the recipient of this report is not an accredited investor, expert investor or institutional investor (as defined under Section 4A of the Singapore Securities and Futures Act), Maybank KERPL shall be legally liable for the contents of this report, with such liability being limited to the extent (if any) as permitted by law.

Thailand

Except as specifically permitted, no part of this presentation may be reproduced or distributed in any manner without the prior written permission of Maybank Kim Eng Securities (Thailand) Public Company Limited. Maybank Kim Eng Securities (Thailand) Public Company Limited ("MBKET") accepts no liability whatsoever for the actions of third parties in this respect.

Due to different characteristics, objectives and strategies of institutional and retail investors, the research products of MBKET Institutional and Retail Research departments may differ in either recommendation or target price, or both. MBKET reserves the rights to disseminate MBKET Retail Research reports to institutional investors who have requested to receive it. If you are an authorised recipient, you hereby tacitly acknowledge that the research reports from MBKET Retail Research are first produced in Thai and there is a time lag in the release of the translated English version.

The disclosure of the survey result of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information. The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey may be changed after that date. MBKET does not confirm nor certify the accuracy of such survey result.

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by Thaipat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. Thaipat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of Thaipat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, MBKET does not confirm, verify, or certify the accuracy and completeness of the assessment result.

US

This third-party research report is distributed in the United States ("US") to Major US Institutional Investors (as defined in Rule 15a-6 under the Securities Exchange Act of 1934, as amended) only by Maybank Kim Eng Securities USA Inc ("Maybank KESUSA"), a broker-dealer registered in the US (registered under Section 15 of the Securities Exchange Act of 1934, as amended). All responsibility for the distribution of this report by Maybank KESUSA in the US shall be borne by Maybank KESUSA. This report is not directed at you if MKE is prohibited or restricted by any legislation or regulation in any jurisdiction from making it available to you. You should satisfy yourself before reading it that Maybank KESUSA is permitted to provide research material concerning investments to you under relevant legislation and regulations. All U.S. persons receiving and/or accessing this report and wishing to effect transactions in any security mentioned within must do so with: Maybank Kim Eng Securities USA Inc. 400 Park Avenue, 11th Floor, New York, New York 10022, 1-(212) 688-8886 and not with, the issuer of this report.

UK

This document is being distributed by Maybank Kim Eng Securities (London) Ltd ("Maybank KESL") which is authorized and regulated, by the Financial Conduct Authority and is for Informational Purposes only. This document is not intended for distribution to anyone defined as a Retail Client under the Financial Services and Markets Act 2000 within the UK. Any inclusion of a third party link is for the recipients convenience only, and that the firm does not take any responsibility for its comments or accuracy, and that access to such links is at the individuals own risk. Nothing in this report should be considered as constituting legal, accounting or tax advice, and that for accurate guidance recipients should consult with their own independent tax advisers.

DISCLOSURES

Legal Entities Disclosures

Malaysia: This report is issued and distributed in Malaysia by Maybank Investment Bank Berhad (15938- H) which is a Participating Organization of Bursa Malaysia Berhad and a holder of Capital Markets and Services License issued by the Securities Commission in Malaysia. **Singapore:** This report is distributed in Singapore by Maybank KERPL (Co. Reg No 198700034E) which is regulated by the Monetary Authority of Singapore. **Indonesia:** PT Maybank Kim Eng Securities ("PTMKES") (Reg. No. KEP-251/PM/1992) is a member of the Indonesia Stock Exchange and is regulated by the Financial Services Authority (Indonesia). **Thailand:** MBKET (Reg. No.0107545000314) is a member of the Stock Exchange of Thailand and is regulated by the Ministry of Finance and the Securities and Exchange Commission. **Philippines:** Maybank ATRKES (Reg. No.01-2004-00019) is a member of the Philippines Stock Exchange and is regulated by the Securities and Exchange Commission. **Vietnam:** Maybank Kim Eng Securities Limited (License Number: 117/GP-UBCK) is licensed under the State Securities Commission of Vietnam. **Hong Kong:** KESHK (Central Entity No AAD284) is regulated by the Securities and Futures Commission. **India:** Kim Eng Securities India Private Limited ("KESI") is a participant of the National Stock Exchange of India Limited and the Bombay Stock Exchange and is regulated by Securities and Exchange Board of India ("SEBI") (Reg. No. INZ000010538). KESI is also registered with SEBI as Category 1 Merchant Banker (Reg. No. INM 000011708) and as Research Analyst (Reg No: INH000000057) **US:** Maybank KESUSA is a member of/ and is authorized and regulated by the FINRA – Broker ID 27861. **UK:** Maybank KESL (Reg No 2377538) is authorized and regulated by the Financial Conduct Authority.

Disclosure of Interest

Malaysia: MKE and its Representatives may from time to time have positions or be materially interested in the securities referred to herein and may further act as market maker or may have assumed an underwriting commitment or deal with such securities and may also perform or seek to perform investment banking services, advisory and other services for or relating to those companies.

Singapore: As of 2 October 2020, Maybank KERPL and the covering analyst do not have any interest in any companies recommended in this research report.

Thailand: MBKET may have a business relationship with or may possibly be an issuer of derivative warrants on the securities /companies mentioned in the research report. Therefore, Investors should exercise their own judgment before making any investment decisions. MBKET, its associates, directors, connected parties and/or employees may from time to time have interests and/or underwriting commitments in the securities mentioned in this report.

Hong Kong: As of 2 October 2020, KESHK and the authoring analyst do not have any interest in any companies recommended in this research report.

India: As of 2 October 2020, and at the end of the month immediately preceding the date of publication of the research report, KESI, authoring analyst or their associate / relative does not hold any financial interest or any actual or beneficial ownership in any shares or having any conflict of interest in the subject companies except as otherwise disclosed in the research report.

In the past twelve months KESI and authoring analyst or their associate did not receive any compensation or other benefits from the subject companies or third party in connection with the research report on any account what so ever except as otherwise disclosed in the research report.

MKE may have, within the last three years, served as manager or co-manager of a public offering of securities for, or currently may make a primary market in issues of, any or all of the entities mentioned in this report or may be providing, or have provided within the previous 12 months, significant advice or investment services in relation to the investment concerned or a related investment and may receive compensation for the services provided from the companies covered in this report.

OTHERS

Analyst Certification of Independence

The views expressed in this research report accurately reflect the analyst's personal views about any and all of the subject securities or issuers; and no part of the research analyst's compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in the report.

Reminder

Structured securities are complex instruments, typically involve a high degree of risk and are intended for sale only to sophisticated investors who are capable of understanding and assuming the risks involved. The market value of any structured security may be affected by changes in economic, financial and political factors (including, but not limited to, spot and forward interest and exchange rates), time to maturity, market conditions and volatility and the credit quality of any issuer or reference issuer. Any investor interested in purchasing a structured product should conduct its own analysis of the product and consult with its own professional advisers as to the risks involved in making such a purchase.

Definition of Ratings

Maybank Kim Eng Research uses the following rating system

BUY	Return is expected to be above 10% in the next 12 months (including dividends)
HOLD	Return is expected to be between 0% to 10% in the next 12 months (including dividends)
SELL	Return is expected to be below 0% in the next 12 months (including dividends)

Applicability of Ratings

The respective analyst maintains a coverage universe of stocks, the list of which may be adjusted according to needs. Investment ratings are only applicable to the stocks which form part of the coverage universe. Reports on companies which are not part of the coverage do not carry investment ratings as we do not actively follow developments in these companies.

Malaysia

Maybank Investment Bank Berhad
(A Participating Organisation of
Bursa Malaysia Securities Berhad)
33rd Floor, Menara Maybank,
100 Jalan Tun Perak,
50050 Kuala Lumpur
Tel: (603) 2059 1888;
Fax: (603) 2078 4194

Stockbroking Business:
Level 8, Tower C, Dataran Maybank,
No.1, Jalan Maarof
59000 Kuala Lumpur
Tel: (603) 2297 8888
Fax: (603) 2282 5136

Singapore

Maybank Kim Eng Securities Pte Ltd
Maybank Kim Eng Research Pte Ltd
50 North Canal Road
Singapore 059304

Tel: (65) 6336 9090

London

Maybank Kim Eng Securities (London) Ltd
PNB House
77 Queen Victoria Street
London EC4V 4AY, UK

Tel: (44) 20 7332 0221
Fax: (44) 20 7332 0302

New York

Maybank Kim Eng Securities USA Inc
400 Park Avenue, 11th Floor
New York, New York 10022,
U.S.A.

Tel: (212) 688 8886
Fax: (212) 688 3500

Hong Kong

Kim Eng Securities (HK) Ltd
28/F, Lee Garden Three,
1 Sunning Road, Causeway Bay,
Hong Kong

Tel: (852) 2268 0800
Fax: (852) 2877 0104

Indonesia

PT Maybank Kim Eng Securities
Sentral Senayan III, 22nd Floor
Jl. Asia Afrika No. 8
Gelora Bung Karno, Senayan
Jakarta 10270, Indonesia

Tel: (62) 21 2557 1188
Fax: (62) 21 2557 1189

India

Kim Eng Securities India Pvt Ltd
1101, 11th floor, A Wing, Kanakia
Wall Street, Chakala, Andheri -
Kurla Road, Andheri East,
Mumbai City - 400 093, India

Tel: (91) 22 6623 2600
Fax: (91) 22 6623 2604

Philippines

Maybank ATR Kim Eng Securities Inc.
17/F, Tower One & Exchange Plaza
Ayala Triangle, Ayala Avenue
Makati City, Philippines 1200

Tel: (63) 2 8849 8888
Fax: (63) 2 8848 5738

Thailand

Maybank Kim Eng Securities (Thailand) Public Company Limited
999/9 The Offices at Central World,
20th - 21st Floor,
Rama 1 Road Pathumwan,
Bangkok 10330, Thailand

Tel: (66) 2 658 6817 (sales)
Tel: (66) 2 658 6801 (research)

Vietnam

Maybank Kim Eng Securities Limited
4A-15+16 Floor Vincom Center Dong
Khoi, 72 Le Thanh Ton St. District 1
Ho Chi Minh City, Vietnam

Tel : (84) 844 555 888
Fax : (84) 8 38 271 030

Saudi Arabia

In association with
Anfaal Capital
Ground Floor, KANOO Building
No.1 - Al-Faisaliyah,Madina Road,
P.O.Box 126575 Jeddah 21352
Kingdom of Saudi Arabia

Tel: (966) 920023423

South Asia Sales Trading

Kevin Foy
Regional Head Sales Trading
kevinfoy@maybank-ke.com.sg
Tel: (65) 6636-3620
US Toll Free: 1-866-406-7447

Indonesia
Iwan Atmadjaja
iatmadjaja2@bloomberg.net
(62) 21 8066 8555

New York
James Lynch
jlynch@maybank-keusa.com
Tel: (212) 688 8886

Philippines
Keith Roy
keith_roy@maybank-atrke.com
Tel: (63) 2 848-5288

North Asia Sales Trading

Andrew Lee
andrewlee@kimeng.com.hk
Tel: (852) 2268 0283
US Toll Free: 1 877 837 7635

London
Greg Smith
gsmith@maybank-ke.co.uk
Tel: (44) 207-332-0221

India
Sanjay Makhija
sanjaymakhija@maybank-ke.co.in
Tel: (91)-22-6623-2629

www.maybank-ke.com | www.maybank-keresearch.com