Saturna White Paper: Educational Series

Green *Sukuk*: A New Legacy for Green Sprouts?

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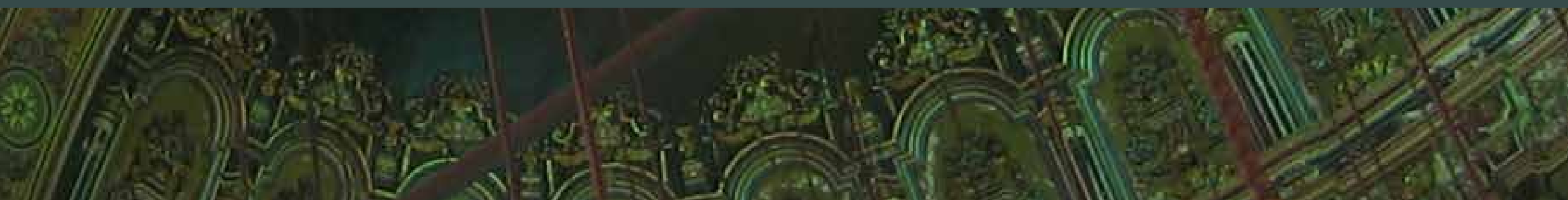


About Saturna Capital

Saturna Capital, manager of the Amana, Saturna Sustainable, Sextant, and Idaho Tax-Exempt Funds, uses years of investment experience to aid investors in navigating today's volatile markets. Founded in 1989 by professionals with extensive experience, Saturna has helped individuals and institutions build wealth, earn income, and preserve capital.

We are long-term, values-based, and socially responsible investors. We view consideration of environmental, social, and governance ("ESG") factors as essential in forming portfolios of high-quality companies that are better positioned to reduce risk and identify opportunities. We believe that companies proactively managing business risks related to ESG issues make better contributions to the global economy and are more resilient.

At Saturna, we believe in making your investment dollars work hard for you and that your interests always come first. Saturna strives to not only offer the best investment opportunities from mutual funds to IRAs, but to match those sound investments with superior customer service.

About Saturna Sdn. Bhd.

Saturna Sdn. Bhd. is the wholly-owned Malaysian subsidiary of Saturna Capital Corporation, resulting from the 2010 purchase by Saturna Capital of Alpha Asset Management located in Kuala Lumpur. Saturna Sdn Bhd holds an Islamic Fund Management Licence ("IFML") with the Malaysian Securities Commission. Saturna is the first conventional asset manager to be converted to an Islamic asset manager.

Green bonds are earning creditability within the fixed-income community as viable instruments that combine the dual objectives of investment returns and environmental and climate mitigation. At the end of 2018, total green bond issuance came in at US $167.3 billion, an increase of 3.2% from the $162.1 billion issued the year prior, and 105% more than 2016's total issuance of $81.6 billion, reflecting a three-year compound annual growth rate of 57.0%.[1,2,3]

As the green bond market grows, green *sukuk* are starting to find their place in the market. Green *sukuk* expand the dual investment mandate of green bonds by including a third element: faith-based alignment. Based on our research, we believe investors can proceed with confidence that green *sukuk* successfully achieve their dual mandate to align investors' faith-based objectives with climate mitigation objectives. So far, green *sukuk* have generally demonstrated best-in-class characteristics as they relate to directing proceeds toward climate and environmental mitigation projects.

Addressing Climate Mitigation

Climate mitigation seeks to keep average global temperatures from rising more than two degrees Celsius above what they were before the Industrial Revolution. This goal was codified in December of 2015 at the Paris Climate Agreement, where it was later ratified by 184 nations in January 2019.[4]

The need for climate and environmental mitigation project financing is staggering. Findings by the International Energy Agency identified that under a business as usual scenario even $44 trillion in spending, with 20% being allocated toward renewable energies, is insufficient to limit global warming to a two degrees Celsius ceiling.[5] While these numbers and projected capital outlays are immense, they may pale in comparison to the sobering costs related to damages caused by climate change. A recent research article published by the journal *Nature Communications* identifies that melting permafrost caused by accelerated Arctic warming would add close to $70 trillion to the overall economic impact of climate change if the planet warms by three degrees Celsius by 2100.[6]

The green bond market serves an important two-part function: providing needed capital for climate and environmental mitigation projects while offering fixed-income investors an investment return. This symbiotic relationship gives investors an opportunity to "do good" by offering a means of allocating capital toward a secondary objective of addressing environmental priorities while still seeking a market rate of return.

[1] 2018 Green Bond Market Summary, Climate Bonds Initiative, January 2019. https://www.climatebonds.net/resources/reports/2018-green-bond-market-highlights
[2] Whiley, Andrew. Global green bonds overtake 2016 total: $83bn on 28th Sept: Now in sight of our $130bn by December 31st forecast, Climate Bonds Initiative, September 29, 2017. https://www.climatebonds.net/2017/09/global-green-bonds-overtake-2016-total-83bn-28th-sept-now-sight-our-130bn-december-31st
[3] Green Bonds Highlights 2016, Climate Bonds Initiative. https://www.climatebonds.net/files/files/2016%20GB%20Market%20Roundup.pdf
[4] Paris Climate Agreement Q&A, Center for Climate and Energy Solutions. https://www.c2es.org/content/paris-climate-agreement-qa/
[5] Tweed, Katherine. IEA: $44 Trillion in Energy Investment Won't Limit Climate Change to 2 Degrees, GTM, November 18, 2016. https://www.greentechmedia.com/articles/read/iea-44-trillion-in-energy-investment-wont-limit-climate-change-to-2-degrees#gs.d87d1j
[6] Burke, E., Elshorbany, Y., Hope, C., Iglesias-Suarez, F., Jafarov, E., Riemann-Campe, K., Schaefer, K., Whiteman, G., Young, P., and Yumashev, D. Climate policy implications of nonlinear decline of Arctic land permafrost and other cryosphere elements, Nature Communications, April 23, 2019. https://www.nature.com/articles/s41467-019-09863-x

What are *Sukuk?* Financial & Religious Integration

Two primary features distinguish Islamic-compliant securities from conventional fixed-income securities. The first is the security's structure and the second is the requirement that the financial instrument be reviewed by an Islamic religious body to ascertain its *halal* status prior to issuance.

Islamic economic thought favors profit-sharing modes of financing in which the financier assumes some business risk. As a result, both investors and issuers of investment certificates share in the enterprise's risks as well as returns. Investors tend to share profits and losses proportional to their ownership interests (akin to shares) in the certificates.

To be considered *halal, sukuk* must conform to Islamic investing principles. The investment certificate itself must represent an ownership or beneficial ownership interest in assets of a commercial enterprise. This requires the certificate's structure to reflect a legal transfer of ownership of the underlying assets from the issuer to the investor. Payments to the certificate holders are based on the net profits of the underlying assets. The issuer cannot guarantee the security's investment return or establish a predetermined price (principal repayment) at the end of the investment certificate's tenure; hence establishing a true risk and profit-sharing relationship that results from ownership.

In contrast, conventional bondholders receive cash flows that are independent of the amount of the funds raised through issuing bonds or the economic performance of any underlying assets. Unlike shareholders, bondholders receive income that has been determined and agreed upon in advance. As a result, creditors (bondholders) avoid direct exposure to the uncertainties, or risks, of the underlying assets or business enterprise. Rather, their risk is tied to the creditworthiness of the issuer. In other words, creditors do not directly share the risks faced by the enterprise they finance. It is for this reason that interest-based bonds are "risk-transferring" rather than "risk-sharing" contracts.[7] Furthermore, *sukuk* investors may obtain a higher value at the end of the investment certificate's tenure if the market value of the security's underlying asset or business enterprise appreciates. Bondholders receive only the return of their original principal, or par value, upon the security's maturity.

[7] *Kamali, M.H., Abdullah, A.K., editors. Islamic Finance: Issues in Sukuk and Proposals for Reform, Chapter 4, Sukuk and Bonds: A Comparison, 2014.*
[8] *Labelled green bonds data, Climate Bonds Initiative. https://www.climatebonds.net/cbi/pub/data/bonds*
[9] *Climate Bond Standard Public Consultation Report, Climate Bonds Initiative. https://www.climatebonds.net/files/files/standards/Consultation_Report-v1-24Nov11.pdf*
[10] *Climate Bonds Standard. https://www.climatebonds.net/standard/download*

What Makes *Sukuk* "Green"? Green Bond Frameworks

The green bond market employs a voluntary framework that establishes best practices for issuers. As the market has evolved, two non-profit organizations have emerged to provide guidelines aimed to harmonize a host of criteria. Among some of the important considerations are what qualifies a bond's proceeds use as meeting a "green" standard threshold, along with issues relating to transparency, independent verification, reporting, and disclosure processes. The Climate Bonds Initiative (CBI) was first to the scene in 2009[8] and later established the first green bond guidelines called the Climate Bonds Standards (CBS) in 2011.[9] These guidelines have subsequently gone through several updates with the latest iteration, version 3.0, in a final draft stage at the end of June of 2019.[10] In January of 2017, CBI expanded the range of eligible instruments in the CBS's version 2.1 to include *sukuk* as eligible green instruments.[11] Version 2.0 was released in 2015, coinciding with the Paris Climate Agreement.[12,13]

In January of 2014, the International Capital Market Association (ICMA) launched the Green Bond Principles (GBP) with the support of a consortium of 13 global investment banks aimed to formalize voluntary guidelines for the development and issuance of green bonds.[14] GBP's objective was to promote integrity of the green bond market by offering a clarifying approach for the issuance of green bonds through voluntary guidelines that recommended transparency and disclosure.[15] CBS's version 3.0 builds on the collaboration and alignment of the GBPs to reinforce a consistent framework, structure, and terminology.[16]

In 2014, the Securities Commission Malaysia (SC) launched the Sustainable & Responsible Investment Sukuk Framework to facilitate the financing of sustainable and responsible investment initiatives.[17] The SRI Sukuk Framework was aligned with ICMA's Green Bond Principles framework and was formed in partnership with the World Bank.[18,19] It is interesting to note that the SRI Sukuk guidelines permit a broader range of eligible projects to be characterized as "green proceeds use" that are not included in CBS's framework. One such example, is that a *sukuk* can be qualified as green if the proceeds are deemed to "improve the quality of life for society."[20,21]

In time, other market organizations began to issue their own voluntary green bond frameworks. In November of 2017, the Association of Southeast Asian Nations (ASEAN)[22] Capital Markets Forum launched the ASEAN Green Bond Standards based upon the ICMA's Green Bond Principles.[23] The criteria for a security to obtain a green labeled status under ASEAN's framework require the issuer to be an ASEAN issuer or for a non-ASEAN issuer, the eligible green projects must be located in any of the ASEAN countries.[24]

[11] A List of Debt Instruments for Certification under the Climate Bonds Standard version 2.1. https://www.climatebonds.net/files/files/CBS%20Version%202_1%20-%20List%20of%20debt%20instruments%20-%20updated%20-%20Jan2017%281%29.pdf

[12] The Paris Agreement is an agreement within the United Nations Framework Convention on Climate Change (UNFCCC), dealing with greenhouse-gas-emissions mitigation, adaptation, and finance, signed in 2016. The agreement's language was negotiated by representatives of 196 state parties at the 21st Conference of the Parties of the UNFCCC in Le Bourget, near Paris, France, and adopted by consensus on December 12, 2015.

[13] Whiley, Andrew. Climate Bonds releases new Standard V2.0 – post COP21 global guidance for green bond market participants, Climate Bonds Initiative, December 21, 2015. https://www.climatebonds.net/2015/12/climate-bonds-releases-new-standard-v20-post-cop21-global-guidance-green-bond-market

[14] Kidney, Sean. 1/2 : Thirteen major banks issue "Green Bond Principles" to guide development of Green Bonds market, Climate Bonds Initiative, January 14, 2014. https://www.climatebonds.net/2014/05/12-thirteen-major-banks-issue-"green-bond-principles"-guide-development-green-bonds

[15] Green Bond Principles, 2014: Voluntary Process Guidelines for Issuing Green Bonds, Climate Bonds Initiative, January 13, 2014. https://www.climatebonds.net/files/uploads/2014/01/Green-Bond-Principles-FINAL.pdf

[16] Climate Bonds Standards & Certification Scheme: Assurance Rountable, Climate Bonds Initiative, March 21, 2018. https://www.climatebonds.net/files/files/Assurance%20Roundtable_March%202018%20-%20London%20updated.pdf

[17] Securities Commission Malaysia. https://www.sc.com.my/news/media-releases-and-announcements/sc-introduces-sustainable-and-responsible-investment-sukuk-framework

[18] Driving Sustainable Investments Through Green Sukuk, Securities Commission Malaysia. https://www.sc.com.my/api/documentms/download.ashx?id=1316fd32-1993-44cb-9669-5d5687adda35

[19] Helping Malaysia develop the green sukuk market, The World Bank. http://pubdocs.worldbank.org/en/514801523545420821/case-study-financial-products-malaysia-2018-GreenSukukMarketDevelopment.pdf

[20] Climate Bonds Standard, https://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2_1%20-%20January_2017.pdf

[21] Guidelines on Sukuk, Securities Commission Malaysia. https://www.sc.com.my/api/documentms/download.ashx?id=60055712-b085-4584-ab99-eb2bda4ddd90

[22] ASEAN promotes the economic growth of ten countries located south of China to include Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. http://www.theacmf.org/ACMF/upload/ASEAN_Green_Bond_Standards.pdf

[23] Ibid.

[24] Ibid.

Market: Size & Other Characteristics

The green bond market is small relative to the global fixed-income universe, with the green *sukuk* market taking an even smaller foothold. At the end of 2018, the size of the green bond and *sukuk* market was roughly US $401.2 billion, with the green *sukuk* market representing only US $2.13 billion, or 0.53% of the total green fixed-income market.[25] For the same period, the total amount of domestic and international debt outstanding was US $126.5 trillion, which means that the green bond and *sukuk* market represented approximately 0.31% of the world's outstanding debt.[26] While these numbers are considerably small, it's important to note that this market is young and evolving at a relatively rapid pace.

On July 27, 2017, Tadau Energy Sendirian Berhad became the first green *sukuk* issuer. Tadau Energy, a Malaysian company, issued green *sukuk* in the amount of 250.0 million ringgit (US $58.4 million) for project financing of a 50MW large scale solar project using the SRI Sukuk framework. The issue was offered in 15 tranches with maturities ranging from two to 16 years with the smallest tranche of 9.0 million ringgit and the largest tranche of 20.0 million ringgit. Soon, five more green *sukuk* came to the Malaysian market, all financing solar projects – with the exception of one used to finance the construction of an 83-story office building in Kuala Lumpur, Malaysia.

Within a year after the first green *sukuk* were issued, the first US dollar denominated green *sukuk* was issued by the government of Indonesia on March 1, 2018. Indonesia later returned to the market to issue their second green *sukuk* in February of 2019. Later in May of 2019, Majid Al Futtaim (MAF), a Dubai headquartered retailer, issued the first corporate US dollar denominated green *sukuk*. Of the outstanding $3.47 billion green *sukuk* issued by mid-year 2019, 74.9% of total green *sukuk* issuance was US dollar denominated with the remaining balance, 25.1% of total issuance, being Malaysian ringgit denominated. A list of outstanding green *sukuk* can be found in the accompanying illustration.

All of the green *sukuk* have demonstrated best-in-class characteristics as they relate to directing proceeds use toward climate and environmental mitigation projects. All the Malaysian issued green *sukuk* employ the SRI Sukuk framework. Some of the best-in-class characteristics occur when the issuer obtains a secondary party opinion for the proceeds use. For example, four of the six issuers employed CICERO (a Norwegian based nonprofit organization specializing in interdisciplinary climate research and related consulting services) after identifying that all of the alternative project funding would earn a "dark green" ranking, the highest proceeds use for green qualification.[27] The fourth issue, PNB

[25] *Bloomberg*
[26] *Debt Securities Statistics, BIS, September 22, 2019. https://www.bis.org/statistics/secstats.htm*

Issuer's Name	Program	Currency	Amount Issued	Size in US $	Issued Date	No. of Tranches	Country of Domicile	First Maturity	Final Maturity	Industry	Structure
Tadau Energy SDN	SRI Sukuk	MYR	250,000,000	58,453,553	7/27/2017	15	Malaysia	7/29/2019	7/27/2033	Alt. Energy	Al Ijara
Quantum Solar Park	Green SRI Sukuk	MYR	980,000,000	231,312,106	10/6/2017	32	Malaysia	10/4/2019	4/6/2035	Alt. Energy	Al Murabaha
PNB Merdeka Ventures	ASEAN Green & SRI Green Sukuk	MYR	1,874,000,000	462,944,664	12/29/2017	6	Malaysia	12/29/2022	12/29/2031	Real Estate Developer	Al Murabaha
SINAR KAMIRI SDN	Green SRI Sukuk Wakalah	MYR	245,000,000	62,841,460	1/30/2018	17	Malaysia	1/30/2018	1/30/2036	Alt. Energy	Al-Wakala Bel-Istithmar
UITM SOLAR POWER	Green SRI Sukuk	MYR	222,300,000	56,716,418	4/27/2018	17	Malaysia	4/27/2020	4/25/2036	Alt. Energy	Al Murabaha
SBSN INDO III	ASEAN Green	USD	1,250,000,000	1,250,000,000	3/1/2018	1	Indonesia	3/1/2023	3/1/2023	Sovereign	Al-Wakala Bel-Istithmar
SBSN INDO III		USD	750,000,000	750,000,000	2/20/2019	1	Indonesia	8/20/2024	8/20/2024	Sovereign	Al-Wakala Bel-Istithmar
MAF SUKUK LTD		USD	600,000,000	600,000,000	5/14/2019	1	UAE	5/14/2019	5/14/2029	Real Estate Operator	Al Murabaha
			Total	**3,472,268,201**							

Note: Currency conversions are as of the issued date.

Merdeka Ventures, obtained a "medium green" ranking, the second highest ranking for its planned construction of its 83-story office tower that "aspires to be triple-certified platinum."[28]

The remaining two Malaysian ringgit issues, Sinar Kamiri Sdn and Pasukhas Green Assets Sdn Bhd, both employed RAM Holdings (an affiliated company of Malaysia-based credit rating agency RAM Rating Services Bhd). Both Sinar Kamiri's 49 MW solar photovoltaic power plant and Pasukhas's small-hydro 3.2 MW facility obtained RAM's highest green proceeds use qualification of Tier 1 (with Tier 3 being the lowest).

Among the non-Malaysian issuers, Indonesia employed CICERO and Majid Al Futtaim contracted Sustainalytics as the independent examiners of proceeds use. Indonesia and MAF ushered in the first sovereign and corporate US dollar denominated *sukuk*. Indonesia came to the market with two separate issues: first in March of 2018 for $1.25 billion followed by $750.0 million in February of 2019. Indonesia used CICERO's secondary party opinion framework for its second *sukuk* issue, and CICERO gave Indonesia's project funding its highest-ranking qualification, their dark green status. Sustainalytics doesn't employ a second party opinion ranking system such as CICERO or RAM but did identify in its review that Majid Al Futtaim's Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2018.[29]

[27]CICERO Center for International Climate Research. https://cicero.oslo.no/file/1238/PNBMV_2017.pdf
[28]'Second Opinion' on PNB: Merdeka Ventures Sdn. Berhad's Green Sukuk Framework, October 30, 2017. https://cicero.oslo.no/file/1238/PNBMV_2017.pdf
[29]Second-Party Opinion: Majid Al Futtaim Green Finance Framework, Sustainalytics, April 29, 2019. https://www.sustainalytics.com/sustainable-finance/wp-content/uploads/2019/04/Majid-Al-Futtaim-Green-Finance-Framework-Second-Party-Opinion-29042019.pdf

Greenium: Hints of a Silver Lining

There has been anecdotal evidence of green bond issues obtaining premium characteristics in the primary and secondary markets. These attributes include higher than average investor demand, tighter spreads, and lower yields when compared to non-green qualified bonds. These premium characteristics are sometimes referred to as "greenium" to reflect the ability of green bonds to obtain market-premium attributes. However, this greenium isn't guaranteed and tends be observed when certain issuers engage in best-in-class edicts, such as obtaining independent verification of proceeds use, employing transparency, a non-controversial climate and environmental mitigation project, and having a favorable reputation among its investors regarding its capacity to pay.

IT IS IMPORTANT TO STRESS THAT THE GREEN BOND MARKET IS STILL VERY YOUNG, SMALL, AND EVOLVING.

Early indications of these greenium characteristics were published by CBI in a study entitled *"Green Bond Pricing in the Primary Market – Is There a Greenium?"* Since then, CBI has issued subsequent surveys on primary bond market characteristics, most recently assessing green bond pricing trends for the second half of 2018. In their report, CBI states that during the first half of 2018, US dollar denominated green bonds experienced an oversubscription of 3.4x for green bonds and 3x for plain vanilla bonds with a spread compression that averaged 4 basis points (bps) tighter. The same report indicates that euro denominated green bonds experience demand oversubscription of 2.3x relative to 2x observed with plain vanilla bonds with a 1 bp tighter primary issuance yield spread.[30]

CBI's work gained the attention of S&P Global Ratings; the rating agency independently assessed the characteristics of the primary market and their findings supported CBI's claims that a greenium appears to exist.[31] The World Bank also shared research in September of 2018, stating "we find that, on average, there is no significant premium or discount for green bonds relative to conventional bonds. However, the green premium can be significantly reduced if a green bond has an independent reviewer or CBI certification. This implies the importance of a widely recognized and accepted standard in the green bond market in lowering the information costs of investors. In addition, such evidence indicates that green indicators such as an external reviewer and green bond certification can boost investor confidence."[32]

It is important to stress that the green bond market is still very young, small, and evolving. S&P identifies that a primary reason for this premium is a lack of supply versus demand.[33] Barclays Capital, however, offers a broader perspective, saying that "green bonds' tighter spreads could reflect a simple preference on the part of investors, which could be the case if investors accrue enough other benefits to offset the lower cash flow. These benefits could be in the form of psychological benefits for investors, brand value, influence with regulators, or other indirect gains. We are cautious about this explanation, because we have not encountered investors that have been willing to put an explicit price on being green." Barclays' researchers continue by stating that "this may be a challenge for the sector–while the potential financial benefits of green bonds are nebulous and the returns have historically been in line with conventional bonds, it is increasingly clear that green bonds trade at tighter spreads than otherwise similar conventional paper. If that spread divergence continues, investors and their sponsors will need to consider exactly how much they are willing to pay to be green brings about these premiums isn't entirely clear."[34]

[30] Green Bond Pricing in the Primary Market: January – June 2018. https://www.climatebonds.net/resources/reports/green-bond-pricing-primary-market-january-june-2018

[31] Green Bond Pricing in the Primary Market – Is the Grass Greener? S&P Global Ratings. https://www.spratings.com/documents/20184/1022795/Green+Evaluation+pricing+info-graphic+v4/b20b2a94-e6e8-416f-b15b-eec9bfced90c

[32] The Price of Greenness: Some Evidence from Green Bond Markets, The World Bank, September 27, 2018. https://www.worldbank.org/en/events/2018/09/27/the-price-of-greenness-some-evidence-from-green-bond-markets

[33] Laidlaw, J. and Mehmood, J. Investors may pay 'greenium' as green bond demand outstrips supply, S&P Global Market Intelligience, March 28, 2018. https://www.spglobal.com/marketintelligence/en/news-insights/trending/hplrxsppllx_q1g1vfabmq2

[34] Barclays https://www.environmental-finance.com/assets/files/US_Credit_Focus_The_Cost_of_Being_Green.pdf

Both green bond issuers and investors are well positioned to potentially benefit from the incremental greenium attributes of the security. Issuers seek a lower cost of capital in the face of stronger investor demand when compared to conventional non-qualified (CNQ) bonds. This, in turn, helps raise corporate executives' confidence in obtaining favorable primary issuance characteristics. Investors look to benefit from the secondary market by tapping into a large pool of buyers willing to pay up for the green bond. In the comparatively smaller *sukuk* market, do issuers and investors obtain similar greenium benefits?

WITH THE *SUKUK* MARKET BEING EVEN SMALLER WHEN COMPARED TO THE GREEN BOND MARKET, ARE *SUKUK* ISSUERS AND INVESTORS OBTAINING SIMILAR GREENIUM BENEFITS?

To answer this question, it is best to break down green *sukuk* into two market segments– the US dollar denominated issues and the Malaysian ringgit issues. These two markets have experienced different outcomes for investors, leading to potentially better results for US dollar investors.

Indonesia debuted the first green sovereign US dollar *sukuk* with its Republic of Indonesia (ROI) issuance on March 1, 2018, providing an opportunity to see how a security would appeal to an environmental as well as a religiously attentive community. The five-year, $1.25 billion issue faced what was characterized as "remarkable demand" according to one banker working the deal, leading the security's initial price talk – preliminary discussions about the initial public offering price – to tighten by 30 bps, and it was later offered at 109.5 bps above its benchmark US Treasury.[35] According to the issuer, the *sukuk* were allocated among a wide range of investors with 29% of them being green focused and 71%, being non-environmentally focused. ROI reported that 32% of its investors' accounts were characterized as Islamic, generally domiciled in the Middle East and Malaysia. Of the remainder, 25% were domiciled in Asia, 18% in Europe, 15% in the US, and 10% in Indonesia.[36]

Nearly a year later, on February 20, 2019, Indonesia issued its second green *sukuk* with a 5.5-year maturity for $750.0 million. It experienced oversubscription close to 3.8x, with the deal closing nearly 30 bps tighter than the initial price talk, the same as its inaugural issue.[37] According to reports, the green sukuk attracted strong demand with 29% of the buyers in the Middle East and Malaysia, 23% in the US, 22% in Europe, 10% in Indonesia, and 16% among other regions in Asia.[38] Coinciding with the green sukuk issuance was a conventional sukuk for $1.25 billion with a 10-year maturity. This issue was also met with strong demand.[39]

[35] Dunkley, Emma. Indonesia issues world's first green sukuk bond, Financial Times, February 22, 2018. https://www.ft.com/content/e38ea51c-184c-11e8-9376-4a6390addb44
[36] Ministry of Finance, Republic of Indonesia. Indonesia's Green Bond and Green Sukuk Initiative, https://www.ndcs.undp.org/content/dam/LECB/docs/pubs-reports/undp-ndcsp-green-sukuk-share.pdf
[37] Gorbiano, Marchio Irfan. Indonesia issues US$2b global green, regular sukuk, The Jakarta Post, February 18, 2019. https://www.thejakartapost.com/news/2019/02/18indonesia-issues-us-2-27b-global-green-sukuk.html
[38] Santiago, Chito. Republic of Indonesia prints green sukuk, The Asset, February 18, 2019. https://esg.theasset.com/ESG/35802/republic-of-indonesia-prints-green-sukuk
[39] Ibid.

MAF issued the first corporate US dollar denominated *sukuk* raising $600 million under extremely favorable conditions. Alain Bejjani, MAF CEO, identified that the *sukuk* was "more than six times oversubscribed from a wide investor base" leading the initial price talk of the security to tighten in from 245 bps over the 10-year mid-swaps benchmark, to 220 bps above the mid-swaps upon its issuance.[40,41] The deal attracted investors from across the world with 32% based in the Middle East (inferred as having an Islamic faith emphasis), 27% from Asia, 20% from the UK, 13% from Europe, and 8% from the US. Asset managers represented the largest portion of the order book by acquiring 67% of the issue, followed by banks at 23%, insurance and pension funds at 6%, and 4% falling into the "other" category.[42] Unfortunately there was no information as to the breakdown of green or non-green focused investors for this deal.

While evidence appears to support the notion that US dollar denominated green *sukuk* may obtain greenium attributes (identified by the large oversubscriptions and price tightening prior to issuance), it is still too early to place weight on the outcome of just three issues. What is interesting, however, is that there appears to be broad investor distribution, with roughly 30% being potentially identified as faith-based, and some early indications suggesting that at least 20% of the buyers could have a green focus. This may suggest that US dollar denominated green *sukuk* could be well positioned to benefit from three different investor communities: conventional fixed-income investors, green investors, and faith-based investors. However, what does seem clear is that Malaysian ringgit denominated green *sukuk* are not obtaining similar greenium benefits. This may be explained, in part, by the unique *sukuk* structuring employed by Malaysian issuers and declining direct investment flows to the region.

For example, all of the US dollar denominated green *sukuk* are issued as one large tranche, while the Malaysian green sukuk issues tend to be divided into smaller, individual tranches that are tied to the underlying master issue. For example, the Quantum Solar Park (QSP) green *sukuk* issued October 6, 2017, for 980.0 million ringgit (US $231.3 million) incorporated 32 separate tranches. The tranche sizes varied from 25.0 million ringgit (US $5.90 million) to 35.0 million ringgit (US $8.26 million). Adding to the complexity of QSP's structure, each tranche had its own maturity date with the shortest tenure being a two-year, 25.0 million ringgit tranche, and the longest being nearly 18-years for 35.0 million ringgit. This structuring behavior was consistent across the Malaysian ringgit denominated green *sukuk*, even among the smallest green *sukuk*. Pasukhas Green Assets

[40] Clowes, E. UAE's Majid Al Futtaim issues first corporate green Sukuk, Gulf News, May 15, 2019. https://gulfnews.com/business/uaes-majid-al-futtaim-issues-first-corporate-green-sukuk-1.63961628

[41] Barbuscia, Davide. UAE's Majid Al Futtaim set to raise $600 mln in "green" sukuk, Reuters, May 7, 2019. https://in.reuters.com/article/maafum-sukuk/uaes-majid-al-futtaim-set-to-raise-600-mln-in-green-sukuk-idINKCN1SD1WN

[42] Per Standard Chartered

Sdn Bhd, issued February 28, 2019, for 17.0 million ringgit (US $4.17 million) was spread across 10 separate tranches with the smallest size being only 1.2 million ringgit (US $0.29 million) and the largest being 2.30 million ringgit (US $0.56 million).

The rationale in issuing such a large array of sub-tranches as part of a master issue can be attributed, in part, to each project asset being associated with its own financing, a cultural norm in Malaysian Islamic finance.[43] As mentioned earlier, *sukuk* are assets rather than debt obligations and as such are typically structured to securitize assets. However, the problem is that it becomes difficult to find assets of similar value in the case of Islamically-permitted asset substitution. Additionally, from a capital markets perspective, it is not viewed as efficient to issue *sukuk* in a series of sub-tranche sizes, as it undermines the benefits associated with scale and secondary market liquidity.

As a result, many international *sukuk* issuers began adopting hybrid *sukuk* structures as a preferred means of attaining the benefits of size, scale, and flexibility. Such structures include *sukuk al wakalah*, which is generally a combination of an *ijarah* with a commodity *murabaha*. As noted by Latham & Walkins, a legal firm known for its expertise in the securities industry, "these [structures] often offer the additional advantage of allowing a commodity *murabaha* transaction to form part of the underlying asset base, up to a pre-determined maximum percentage of the total asset value, rather than requiring the market value of unencumbered tangible assets to equal or exceed, the principal amount of the *sukuk* being issued."[44] According to data collected by the International Islamic Financial Market's (IIFM) annual survey in 2014, the issue frequency of *wakalah*, hybrids, and *al ijarah sukuk* structures among international issuers was 34%, 5%, and 43%, respectively.[45] When compared to the IIFM's survey for 2018, the *sukuk* distribution using *wakalah* rose to 51%, hybrids to 33%, and *al ijarah* fell to 12%.[46]

TYPES OF *SUKUK*

***Wakala* / Agency**

Sukuk al-wakala share characteristics of *mudaraba* and *musharaka*, with a twist: the investors agree to a pre-determined ratio of profit, but should the profit exceed the agreed to amount, the issuer may keep the excess.

***Ijara* / Lease**

Sukuk al-ijara is similar to a lease program and is one of the most prevalent forms of *sukuk*. With this arrangement, investors finance the purchase of fixed assets (such as real estate or airplanes) in exchange for an amount of income generated by the business activities in which the assets are used. At the end of the agreement, the lessee has the option to buy the assets securing the *sukuk*.

***Murabaha* / Cost-Plus-Financing**

Sukuk al-murabaha could also be described as a cost-plus-financing model. The issuer buys a particular asset or commodity at market value and sells it to the originator (who will use the asset). This structure is a common method of financing home loans, but typically the certficates are not traded because of the prohibition on trading in debt.

[43] *Dinc, Y., Razak, S., Saiti, B. The contracts, structures and pricing mechanisms of sukuk: A critical assessment, Borsa Istanbul Review, August 2019. https://www.sciencedirect.com/science/article/pii/S2214845018301765*
[44] *The Sukuk Handbook: A Guide to Structuring Sukuk. https://www.lw.com/thoughtLeadership/guide-to-structurings-sukuk*
[45] *International Islamic Financial Market. http://www.iifm.net/system/files/private/en/IIFM%20Sukuk%20Report%20%284th%20Edition%29%20A%20Comprehensive%20study%20of%20the%20Global%20Sukuk%20Market_0.pdf*
[46] *International Islamic Financial Market. http://www.iifm.net/system/files/private/en/IIFM%20Sukuk%20Report%202018-compressed.pdf*

The transition toward hybrid *sukuk* has considerable appeal among investors as it promotes larger offering sizes, preferred increment issuance amounts (such as $500 million increments), and may also promote greater liquidity. Another potential development that could bolster investor appeal would be for hybrid *sukuk* to meet the criteria for inclusion in benchmark indices offered by the large institutions. Such inclusion could attract substantial capital. For example, JP Morgan announced inclusion of Gulf Cooperation Council (GCC) debt and *sukuk* in their emerging market fixed-income benchmarks in September 2018; this is expected to bring anywhere from $20-$60 billion in new foreign direct investment flows to the region.[47] JP Morgan's announcement led GCC fixed-income spreads to tighten 10-15 basis points after the news of the inclusion.[48]

As a result, single and larger issuer sizes are better positioned to attract a diversity of investors than securities with multiple sub-tranches broken into small sizes. The by-product of Malaysian green *sukuk* issuance trends is that small-tranche issuances are more appealing to private investors than a broad range of diversified investors – an important factor to help form the ingredients for the desirable greenium. Unfortunately, excessive tranche issuance often leads to illiquidity, as it is harder to find investors willing to allocate capital across products with confusing sizes and maturities.

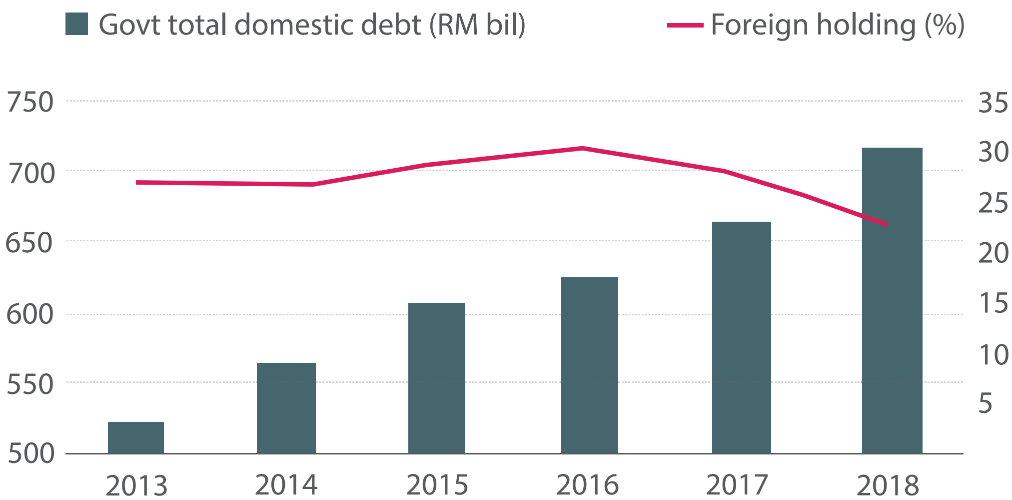
THE BY-PRODUCT OF THE MALAYSIAN GREEN *SUKUK* ISSUANCE TRENDS IS THAT IT BECOMES MORE APPEALING FOR PRIVATE INVESTORS RATHER THAN ATTRACTING A BROAD RANGE OF DIVERSIFIED INVESTORS—AN IMPORTANT FACTOR TO HELP FORM THE INGREDIENTS FOR THE DESIRABLE GREENIUM.

Declining foreign investment may further prevent Malaysian green *sukuk* from obtaining potential greenium benefits. According to Bank Negara Malaysia, Malaysia's central bank, the proportion of foreign holdings in Malaysian government debt has been on the decline since 2016, from 30.57%, to 23.04% in 2018.[49] On April 15, 2019, global index provider FTSE Russell announced that Malaysia may be downgraded to a ranking of "1," down from its currently assigned ranking of "2," making it ineligible for index inclusion.[50] If such a downgrade were to occur, Malaysia could see outflows of almost $8 billion US dollars, Morgan Stanley observed in a research note.[51]

In addition to the macro issues affecting greenium attributes in the secondary markets, some issuers are experiencing non-systemic issues associated with their industry that may inhibit investor appeal. For example, in January 2019, Quantum Solar Park, was

[47] Mayenkar, Siddesh. GCC inclusion in JP Morgan EM bond index to attract $60b, Gulf News, September 26, 2018. https://gulfnews.com/business/markets/gcc-inclusion-in-jp-morgan-em-bond-index-to-attract-60b-1.2283069
[48] Mayenkar, Siddesh. GCC inclusion in JP Morgan EM bond index to attract $60b, Gulf News, September 26, 2018. https://gulfnews.com/business/markets/gcc-inclusion-in-jp-morgan-em-bond-index-to-attract-60b-1.2283069
[49] Tay, Chester. Foreigners Flee in Knee-Jerk Selldown, the Edge Financial Daily, April 18, 2019. https://www.theedgemarkets.com/article/foreigners-flee-kneejerk-selldown
[50] UPDATE 1- Malaysia FTSE bond cut could mean $8 bln outflows Morgan Stanley warns, Reuters, April 17, 2019. https://www.reuters.com/article/malaysia-bonds/update-1-malaysia-ftse-bond-cut-could-mean-8-bln-outflows-morgan-stanley-warns-idUSL5N21Z2OE
[51] Malaysia could see outflows of almost US$8b if bonds downgraded by FTSE: Morgan Stanley, The Star Online, April 17, 2019. https://www.thestar.com.my/business/business-news/2019/04/17/malaysia-could-see-outflows-of-almost-us$8b-if-bonds-downgraded-by-ftse-morgan-stanley

Proportion of foreign holdings in Malaysian government domestic debt



Source: Bank Negara Malaysia

downgraded by Malaysian Rating Corporation Bhd (MARC), from "AA-" to "A+", with a negative outlook based upon the potential termination of their solar purchase power agreements due to the company's delay in commencing operational status.[52]

Despite the weaker dynamics to support the greenium attributes in the secondary market, there are indications that potential greenium attributes may have existed for the primary market – although this information is more anecdotal. For example, the first Malaysian green *sukuk*, Quantum Solar Park, received 2x the oversubscription rate, with the long-dated issues (10-years and longer) obtaining an oversubscription rate between 2.5x to 4x.[53, 54] It is interesting to note that there was evidence that Pasukhas Green Assets *sukuk* did obtain full investor subscription; however, the 17.0 million ringgit is extremely small and most likely reflected a customized product for a private investor.[55] There were also a number of new issues where no information could be found regarding investor demand at the time we published this white paper. These include Quantum Solar Park's green *sukuk*, PNB Merdeka Ventures, Sinar Kamiri Sdn, and UTIM Solar Power issues.

[52] *Marc Downgrades QSP Semenanjung's RM1.0 Billion Green SRI Sukuk Rating to A+IS and Places Rating on Marcwatch Negative, Malaysia Rating Corporation Berhad, January 25, 2019. https://www.marc.com.my/index.php/marc-rating-announcements/997-marc-downgrades-qsp-semenanjung-s-rm1-0-billion-green-sri-sukuk-rating-to-a-is-and-places-rating-on-marcwatch-negative-20190125*

[53] *Award for innovation – bond structure: Tadau Energy, Environmental Finance, March 28, 2018. https://www.environmental-finance.com/content/awards/green-bond-awards-2018/winners/award-for-innovation-bond-structure-tadau-energy.html*

[54] *Inn, Kar Toh. Green sukuk seen growing, The Star Online, October 11, 2017. https://www.thestar.com.my/business/business-news/2017/10/11/green-sukuk-seen-growing/#TsAeGZy-tUvudRSLx.99*

[55] *Danajamin guarantees Pasukhas green sukuk, The Star Online, February 26, 2019. https://www.thestar.com.my/business/business-news/2019/02/26/danajamin-guarantees-pasukhas-green-sukuk/*

Conclusion

The green *sukuk* market is clearly smaller when compared to the green bond market. Yet, green *sukuk* issuers are demonstrating all the best practice characteristics relating to voluntary guidelines and reporting. This bodes well for a community that seeks to integrate climate priorities with an alignment of faith. However, it appears that green *sukuk* investors may obtain different results based upon issuer practices. It is reasonable to anticipate that US dollar green *sukuk* investors are best positioned to benefit from potential greenium attributes, while Malaysian ringgit denominated green *sukuk* investors are less likely to benefit, given regional cultural practices as they relate to the capital market and *sharia* compliant structuring. Additionally, the declining foreign direct investment flows to the local Malaysian market can be expected to exacerbate liquidity issues and attract fewer investors, particularly for the smaller tranches.

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Ownership of Securities Mentioned

As of September 30, 2019, Majid al Futtaim comprised 3.64% of the Amana Participation Fund portfolio and 2.88% of the Saturna Sustainable Bond Fund portfolio. No other securities mentioned were owned by any Fund managed by Saturna Capital.

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