

ISLAMIC GREEN FINANCE

DEVELOPMENT, ECOSYSTEM AND PROSPECTS



ISLAMIC GREEN FINANCE DEVELOPMENT, ECOSYSTEM AND PROSPECTS



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This report benefited from the insightful discussions provided by the speakers and participants of the Conference (Refer to Appendices for the Conference agenda and profile of speakers).

Glossary of Terms

G20	International Forum for the Government and Central Bank Governors from 19 countries and the European Union. The countries are Argentina, Australia, Brazil, Canada, China, Germany, France, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom and the United States.
Green bond / sukuk	Bond / sukuk specifically earmarked to be used for climate and environmental projects.
<i>Maal</i>	Property.
<i>Maqasid al-Shariah</i>	This refers to the desired objectives of the Shariah when determining a <i>hukm</i> (ruling) aimed at protecting human <i>maslahah</i> (public interest).
<i>Modus operandi</i>	A particular way of doing something.
<i>Murabahah</i>	A contract that refers to the sale and purchase of an asset whereby the cost and profit margin (mark-up) are made known.
<i>Nasl</i>	Progeny.
Paris Agreement	An agreement within the United Nations Framework Convention on Climate Change, dealing with greenhouse-gas-emissions mitigation, adaptation, and finance starting in the year 2020.
<i>Raison d'être</i>	The most important reason or purpose for someone or something's existence.
Shariah	The <i>corpus</i> of Islamic law based on the Quran and the <i>Sunnah</i> .
Sukuk	Certificates of equal value which evidence undivided ownership or investment in the assets in accordance with <i>Shariah</i> principles and concepts.

Sustainable Development Goals	Sustainable Development Goals are a set of 17 global goals initiated by United Nations, covering a broad range of sustainable issues which include reducing poverty and hunger, improving health and education, combating climate change, and protecting oceans and forests.
Takaful	Islamic insurance; 'mutual guaranteeing' through mutual support and shared responsibility whereby a group of people agree to jointly guarantee one another against a defined loss.
<i>Tawarruq</i>	The purchase of a commodity on deferred payment basis through a direct sale or <i>murabahah</i> . The commodity is then sold for cash to a party other than the original seller.
<i>Wakalah</i>	A contract where a party authorizes another party to act on behalf of the former based on the agreed terms and conditions as long as he or she is alive.
<i>Waqf</i>	Islamic endowment – a voluntary and irrevocable endowment of Shariah-compliant assets for Shariah-compliant purposes.

Acronyms and Abbreviations

ACMF	ASEAN Capital Markets Forum
ADB	Asian Development Bank
AUM	Asset Under Management
ASEAN GBS	<i>ASEAN Green Bond Standards</i>
CBI	Climate Bonds Initiative
CBS	Climate Bonds Standard
CICERO	Center for International Climate and Environmental Research
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
EPC	Energy Performance Contract
EU	European Union
ESG	Environmental, social and governance
GBI	Green Building Index
GBP	<i>Green Bond Principles</i>
GHG	Greenhouse gas
GTFS	Green Technology Financing Scheme
IBA	Impact Bond Assessment
ICMA	International Capital Market Association
IOSCO	International Organization of Securities Commissions
ITA	Investment Tax Allowance
KWAP	Kumpulan Wang Persaraan (Diperbadankan) / Retirement Fund (Incorporated)
LEED	Leadership in Energy and Environmental Design
MBS	Mortgage-backed securities
MDB	Multilateral Development Banks
MW	Megawatt
NDC	Nationally Determined Contribution
PNB	Permodalan Nasional Bhd
PPA	Power Purchase Agreement
PRI	Principles for Responsible Investment
PTC	Principal Terms and Conditions
QSPS	Quantum Solar Park (Semenanjung) Sdn Bhd
SC	Securities Commission Malaysia
SDG	Sustainable Development Goals
SRI	Sustainable and Responsible Investment
UN	United Nations

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Executive Summary

The Securities Commission Malaysia – World Bank Group – IOSCO Asia Pacific Hub Conference themed, ‘Harnessing Islamic Finance for a Green Future’, discussed and deliberated on the potential of Islamic finance to support climate mitigation and adaptation efforts, including the use of Islamic finance instruments to finance green activities including renewable energy, natural resources and energy efficiency projects. It explored policy, regulatory and institutional elements required for the sustainable use of Islamic finance to address climate change. Additionally, a set of case studies on the recent use of green sukuk to finance projects in Malaysia and Indonesia, and the possible replication of these instruments in other developing and emerging markets were presented at the Conference. This report aims at synthesising the essence of the discussions deliberated at the Conference.

Business-as-usual approach no longer works under the current climate change phenomenon.

Although it has been a while since the world recognizes the importance of addressing climate change, recent climate-related events have underscored the need for urgent action. The financial sector has an integral role to play given the scale of the financial resources required to support climate mitigation and adaptation initiatives. Given the strain on government budgets, the mobilization of private sector financing through innovative instruments becomes imperative.

There is a strong nexus between Islamic finance and green finance. The Conference illuminated the actual nexus between Islamic finance and green finance or more generally sustainable finance. A theme that was emphasized throughout was the natural fit between Islamic finance and green finance, in light of its fundamental principles of risk sharing and sustainability, which could prove critical in financing investments to address climate change, often involving innovative activities and technologies.

Islamic finance has witnessed rapid growth and today, the total Shariah-compliant assets is estimated around US\$2 trillion. This offers tremendous potential in supporting the climate change agenda. Green economic development cuts across a myriad of economic sectors such as transportation and energy waste. A clear message emanating from the Conference was that the greener the economy, the better the climate change phenomenon is being managed. This entails pursuing balanced economic development programmes which coincides well with the core principles of Islamic finance that builds upon the concept of *maqasid al-Shariah*.

Innovations in term of structures is important to increase the amount of funding for environmentally beneficial projects. The United Nations Commission on Trade and Development (UNCTAD) has estimated that US\$5 trillion to US\$7 trillion in annual investments will be needed until 2030 to fund the 17 Sustainable Development Goals (SDGs) in developing countries. There must be a multi-pronged long-term approach to combating climate change and Islamic finance can significantly contribute by providing various financing solutions and tapping on a wider investor base.

Islamic green finance requires a robust ecosystem to grow faster. The green bond market has grown exponentially over the last few years and Islamic finance has the opportunity to leverage this global trend. There is a misconception that green bonds are more complex and costly to issue, and this needs to be corrected. The green bond market is an example of how the conventional capital market has shifted its focus in factoring climate concerns into finance and investments. The Islamic capital market segment follows suit with the issuance of the green sukuk and more recently with the sovereign green sukuk. There is a good number of case studies available on how sukuk has been used to support certified green projects. They highlight key aspects like facilitating factors, challenges faced and solutions provided as well as the experiences in using sukuk.

Standards and guidelines as key building blocks for Islamic green finance. Necessary framework and ecosystem are potentially key drivers in bridging Islamic finance and the green industry. Regulators are seeking a better understanding of key factors that facilitate the capital market ecosystem for sustainable financing. This includes the development of sustainable asset classes such as green bond/sukuk, funds and indices. The Conference highlighted some of the building blocks that can help pave the way for Islamic green finance. This includes the discussion on standards and guidelines as well as an enabling environment for Islamic green finance, namely, the role of international institutions and regulatory authorities in establishing the required ecosystem.

Developing successful green sukuk programs requires commitment from issuers, investors, policymakers and industry practitioners. Green bond framework emphasizes the use and management of proceeds, reporting process and external party review, which are among the processes involved that require attention by the issuers. At regulatory level, efforts to spur the issuances by means of incentives or policy may be required based on market needs. As for investors, disclosure is among areas of concern which may include investment screening and reporting. Investors of this segment may vary which include, among others, fund managers, public and private pensions, reserve managers, insurance and takaful companies where these investors are all significantly shifting towards green and Sustainable and Responsible Investment (SRI).

Institutional investors as a leading example on the role of the private sector. Many institutional investors are shifting themselves from merely being just an investor to a responsible investor. Globally, pension and sovereign wealth funds are shifting their investment to sustainable investment and this will further attract positive change among portfolio of investment communities. The sovereign wealth funds have also considered the level of climate change exposure in their portfolios. They are adopting Environmental, Social and Governance (ESG) criteria to better manage sustainability risks.

There are already successes to celebrate; there are equally multiple challenges to attend to.

The Conference showcased several successful case studies on Islamic green finance which serve as a motivation and encouragement to achieve higher results. These case studies not only reveal the ingredients for success, but also key factors that can constrain or impede success. There is a need to identify elements in the structure or environment that could have derailed these successes. In fact, experience-sharing sessions during the Conference recognized the significance of identifying these critical challenges i.e. leadership, awareness to investors and regulatory frameworks. Appreciating these challenges allow for potential transferability of these success stories to other jurisdictions with different cultures. The green finance market is expanding beyond bonds and Islamic finance which can expand its impact across other asset classes, including positive screening to incorporate ESG into Shariah-compliant equities, sukuk for *waqf* development and impact investing, social bonds and many more.

In summary, Islamic finance can be a catalyst for growth of green developments globally. Investors in Europe, Americas, Africa and Asia are witnessing the effects of non-sustainable investments on assets and portfolios that are exacerbating the climate change effects. This emerging trend provides greater opportunities for Islamic finance to attract a wider investor base and expand its role to support sustainable objectives of finance. This will require continuous collaboration with all stakeholders to converge in standards and reporting, as well as to spur innovation, reduce barriers and cost for issuers while increasing transparency and awareness for investors.

CHAPTER

01 Introduction

OVERVIEW

Climate change has risen to the top of the development agenda as the increasing frequency of extreme weather around the globe ranging from rising water temperatures to severe droughts and floods have resulted in a devastating impact to people, businesses and economies. Following the *Paris Agreement on Climate Change* (Paris Agreement) in 2015, there is new momentum around the role of the financial community in supporting sustainable development and addressing climate change.

Given the scale of the financial resources required to support green infrastructure projects, sustainable technologies and businesses, the mobilization of financing through innovative financial instruments becomes imperative. There has been a growing consensus that we need to urgently redefine the profit motive. Profits may no longer be the sole objective and more attention should be given to sustainability and long-term social impact.

In this context, it seems apt that Islamic finance contributes significantly toward this redefinition. The *maqasid al-Shariah*, which is the foundation of Islamic finance shares common principles and values on the preservation of the environment and society. With these similarities, they provide tremendous opportunity for Islamic finance to capitalize on the strong growth of green finance and investment segments across the globe.



“Islamic finance shares similar underlying principles as that of sustainable finance, i.e. financial stability and economic growth, poverty alleviation and wealth distribution, financial and social inclusion as well as environmental preservation. This has therefore allowed for Islamic finance to capitalize on these similarities to become a natural vehicle to propagate the elements of green finance.”

– Tan Sri Dato’ Seri Ranjit Ajit Singh,
Chairman, Securities Commission Malaysia

Note: Tan Sri Dato’ Seri Ranjit Ajit Singh retired as Chairman, Securities Commission Malaysia on 31 October 2018.

Given the potential of Islamic finance's contributions towards green development, the SC together with the World Bank Group and the IOSCO Asia Pacific Hub convened a one and half-day conference themed, 'Harnessing Islamic Finance for a Green Future'. The Conference discussed and deliberated on ways to explore the use of Islamic finance to support climate mitigation and adaptation efforts including the use of Islamic finance instruments to finance renewable energy and energy efficiency projects.

This is the second collaboration between the SC and the World Bank and the first with the IOSCO Asia Pacific Hub as one of the co-organisers. About 200 local and international delegates attended comprising of policymakers, regulators, industry players and media.

This post report is a joint publication of the SC and the World Bank. It captures the highlights of the discussion during the Conference.



“The investment needs to mitigate and adapt to climate change are huge. The International Energy Agency estimates that an average of US\$3.5 trillion per annum in energy sector investment is required to limit the rise in global temperatures to below two degrees celsius by the end of the century.”

*– Richard Record,
Lead Economist and Acting Country Manager
for Malaysia, World Bank*

Note: Richard Record is currently serving his role as World Bank's Lead Economist for Malaysia.



[From left to right]: **Jose De Luna Martinez**, Lead Financial Sector Specialist, World Bank; **Richard Record**, Lead Economist and Acting Country Manager for Malaysia, World Bank; **Tan Sri Dato' Seri Ranjit Ajit Singh**, Chairman, Securities Commission Malaysia and Vice-Chair, IOSCO Board; **Datuk Zainal Izlan Zainal Abidin**, Deputy Chief Executive, Securities Commission Malaysia; **Abayomi A Alawode**, Head, Islamic Finance, World Bank; and **Foo Lee Mei**, Chief Regulatory Officer, Securities Commission Malaysia.





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CHAPTER

02

Sustainable Development Agenda and Islamic Finance

OVERVIEW

Climate change has disruptive implications on the social well-being, economic development and financial stability of current and future generations. Concerns on the future impact of all these alarming changes and the need to address the present day issues have prompted various global initiatives to cater for climate change threats and environmental crises such as the United Nations' (UN) Sustainable Development Goals (SDGs) and Paris Agreement.

On the global scale, the investment universe is also growing significantly under the sustainable-themed investing or Sustainable and Responsible Investment (SRI). At the same time, the rising trends of green finance globally should be perceived as an opportunity to leverage Islamic financial instruments, given the similarities with the principles of sustainable finance, i.e. financial stability and economic growth, poverty alleviation and wealth distribution, financial and social inclusion as well as environmental preservation. This enables Islamic finance to become a natural vehicle to propagate green development.

2.1 Sustainable Development Goals and Climate Change

The UN SDGs introduced in 2015 has identified 17 specific targets or goals in achieving sustainable development outcomes by 2030 (Figure 1). Seven out of the 17 goals were set covering the environment sustainability including Clean Water and Sanitation, Affordable and Clean Energy, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water and Life on Land.

Achieving the SDGs requires a comprehensive approach that includes the mobilization of required financing from both the public and

The 2030 Agenda for Sustainable Development

brings the world community to reaffirm its commitment to sustainable development. Through this Agenda, 193 member states pledged to ensure a sustained and inclusive economic growth, social inclusion, and environmental protection, fostering peaceful, just, and inclusive societies through global partnership.

Source: United Nations

FIGURE 1: The UN's 17 Sustainable Development Goals



Source: United Nations

private sector. It is clear that public funding sources are not sufficient to cover the investment needs and crowding-in private capital is imperative if the goals are to be accomplished.

Realising the importance in moving towards SDGs, many institutions have accelerated their policy efforts in mobilizing finance to green growth investments through policies, incentives, standards and awareness building. Some of the examples:

- In April 2015, the African Development Bank, Asian Development Bank (ADB), European Bank for Reconstruction and
- The World Bank has a target of contributing almost a third of that in terms of financing

Development (EBRD), European Investment Bank (EIB), Inter-American Development Bank Group, and the World Bank, together known as the Multilateral Development Banks (MDBs), and the International Monetary Fund presented a joint vision of what they can offer within their respective institutional mandates to support and finance achievement of the SDGs. The MDBs plan to provide a financial support valued at US\$400 billion within the three years of the SDGs period (2016 to 2018)¹;

¹ See *From Billions to Trillions: MDB Contribution to Financing for Development*, World Bank Group, 2015.

for climate change. As at end of 2017, about US\$11 billion² value of projects has been directed towards fighting climate change.

2.2 Global Rise of the Green Agenda

At the Paris climate conference in December 2015, 195 countries adopted the Paris Agreement, the world's first universal climate treaty, marking the global rise of green agenda. This milestone subsequently paved the way for policymakers, governments and the private sector to initiate and execute policies on sustainable developments with the objective to achieve economic prosperity underpinned by greater social inclusion, reduction of environmental degradation and preservation of the natural ecosystem.

Significant progress has been made to drive the green agenda since the Paris Agreement. Cumulative investment in renewable energy globally since 2010 is US\$2.2 trillion.³ The global green bond market in 2017 reached US\$155.5 billion of new issuance in comparison to US\$81.6 billion in 2016⁴. The annual global investment in clean energy has grown up by 3% from 2016 to US\$333.5 billion in 2017⁵.

In the European Union (EU), the region drew up a comprehensive strategy on sustainable finance as part of its Capital Markets Union, added with the

support of a High-Level Expert Group on Sustainable Finance. The European Commission released in May 2018, a set of legislative proposals (Sustainable Finance Package) to implement some of the key measures presented in its Action Plan, including the establishment of a common classification system or taxonomy; disclosure requirements relating to sustainable investments; and new categories of benchmarks relating to carbon footprint.

The G20 economies have also issued strategies towards increasing the availability of green finance, and formed the G20 Green Finance Study Group in 2016 to identify barriers to green finance. This is to smooth out the mobilization of

The Paris Agreement, a treaty introduced in 2015, which was gradually signed by 195 parties (194 states and European Union), is built upon global common cause to combat climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Paris Agreement sets the benchmark for countries to undertake actions to fight climate change.

Source: United Nations

² See <http://www.worldbank.org/en/topic/climatefinance/projects>.

³ See *Global Trends in Renewable Energy Investment 2018*, UNEP, 2018.

⁴ See *Green Bond Highlights 2017*, Climate Bond Initiative, 2018.

⁵ See *Clean Energy Investment Trends 2017*, Bloomberg New Energy Finance, 2018.

private capital for green investment. It was supported by the Financial Stability Board that is also exploring ways to develop the financial system to take greater account of environmental factors.

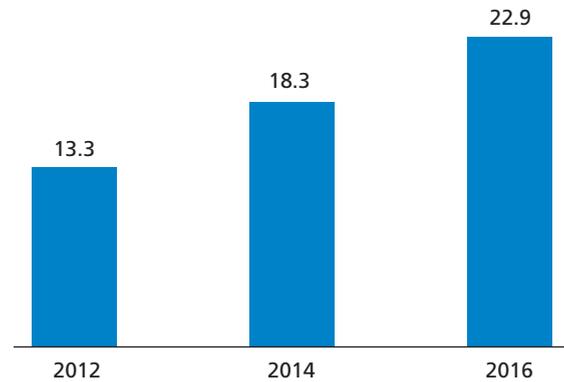
Given the need for large-scale investments to fund sustainable development, the financial community has been called to play a key role in facilitating investments towards sustainable technologies and businesses, finance growth sustainably and to contribute to the creation of a low carbon and climate resilient economy.

2.3 SRI as an Approach to Meet the Sustainable Development

Over the past few years, many financial institutions and policymakers around the world have taken steps towards integrating considerations of ESG into financial frameworks. The UN estimated that approximately 300 policy and regulatory measures targeting sustainability were in place across 60 countries in 2017 compared to only around 140 in 2013⁶.

SRI has gained substantial momentum as a growing number of major institutional funds and investors have increasingly subscribed to the broad principles of investing based on sustainable and responsible objectives. There are numerous classifications based on categories such as climate

FIGURE 2: Global SRI Assets (US\$ Trillion)



Source: Global Sustainable Investment Alliance

change, environment, ethical, governance, social impact, responsible and sustainable investments, including the use of different acronyms.

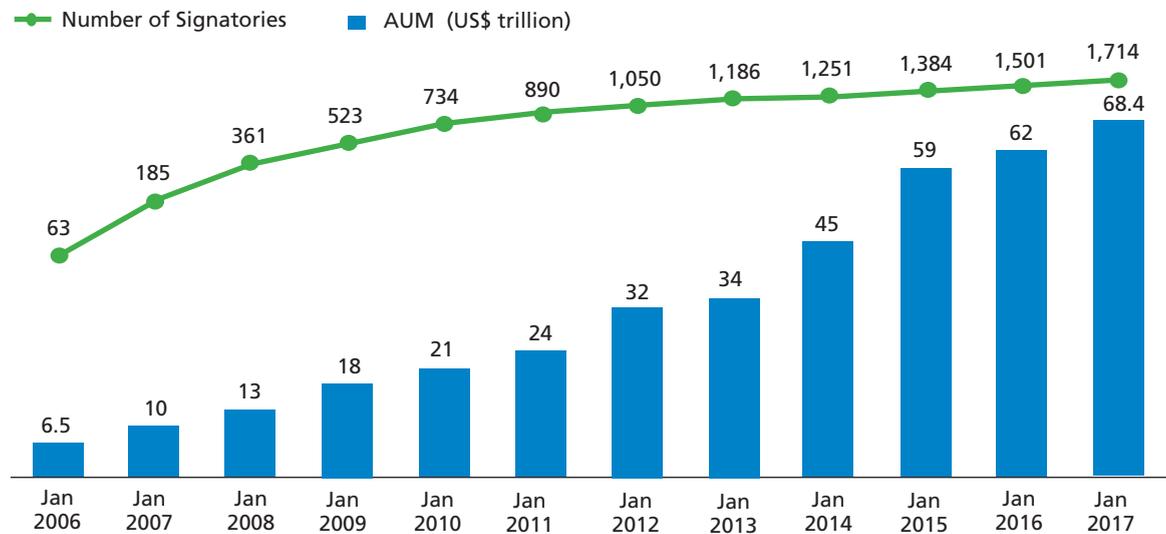
Based on a study undertaken by the Global Sustainable Investment Alliance, a portfolio of investments valued at US\$23 trillion was managed based on SRI mandates. This reflects growth of almost 25% over a period of two years from 2014 to 2016. The SRI mandates now account for about 26% of all professionally managed assets globally (Figure 2).

Looking at the UN's Principles for Responsible Investment (PRI)⁷ signatories as an indicator for sustainable and responsible market based on the last PRI report as at April 2017, about US\$68 trillion of assets under management was

⁶ See *UN Environment Inquiry Overview, 2017*, UN Environment, 2018.

⁷ The PRI is the world's leading proponent of responsible investment. It works to understand the investment implications of environmental, social and governance factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions.

FIGURE 3: Number of PRI Signatories and Asset Under Management



Source: United Nations

managed by signatories of PRI (Figure 3). With SRI gaining traction in the market, it can propel green finance forward to generate benefits to the environment.

2.4 Green Finance: Definition, Trends and Development

Green finance covers the financing of investments that would generate environmental benefits including reducing all types of pollution and greenhouse gas (GHG) emission, improving energy efficiency such as wind energy as well as taking measures to mitigate climate change.

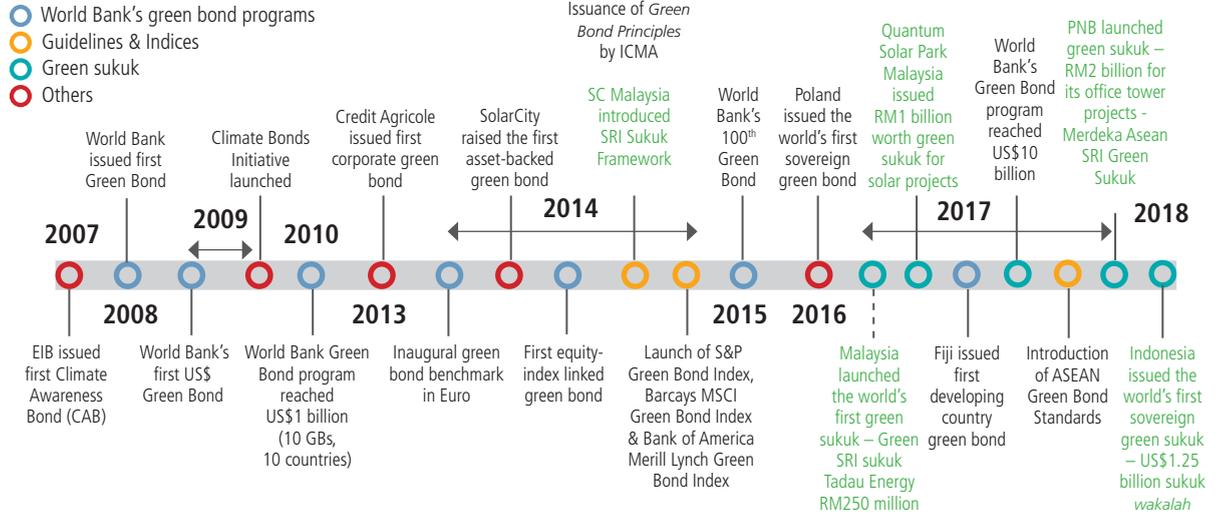
The UN Environment Programme (UNEP)

defines green financing is to increase level of financial flows (from banking, micro-credit, insurance and investment) from the public, private and not-for-profit sectors to sustainable development priorities. A key part of this is to better manage environmental and social risks, take up opportunities that bring both a decent rate of return and environmental benefits and deliver greater accountability.

Source: United Nations

FIGURE 4: Evolution of the Green Bond and Sukuk Market

When did green sukuk come into picture?



Source: INCEIF and SC

Over the past years, a diverse range of investment instruments has been introduced in fulfilling the demand for green finance. According to the ADB report⁸, the green finance products may include green bonds and sukuk, green lending guidelines, green banks, carbon finance, green insurance, green IPOs, green stock indices, green credit and green asset securitization. These instruments present huge opportunities for the Islamic finance industry.

The characteristics of green bonds or the structures of how they are formed are similar to conventional or standard bonds. The key difference is that green bonds look at the positive impact that it has on the environment. In showing the commitment to ensure the proceeds will only be used to finance climate friendly projects, it is important for the issuer to develop a green bond

framework to document the usage of the proceeds right from the issuance, to seek an external reviewer on the proposed issuance and to prepare an impact reporting post-issuance.

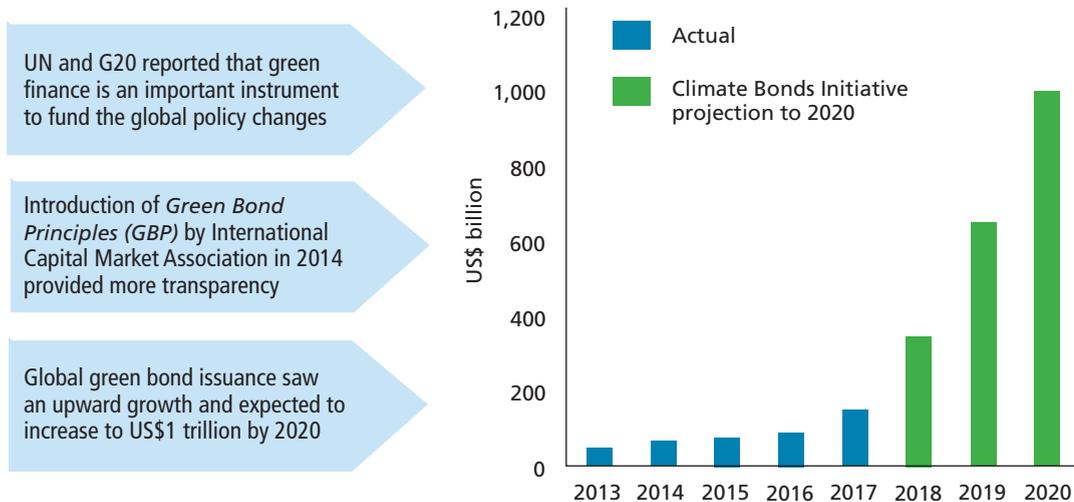
The EIB issued the first green bond in 2007 to accommodate institutional investors' requests in financing environment-friendly projects. The World Bank followed shortly with the issuance of SEK2.3 billion (Swedish krona) of green bonds. In recent years, we have witnessed an increase in interest from the private sector in green financing through capital market instruments. (Figure 4)

The green bonds globally witnessed an upward trajectory between 2013 and 2017. The issuance amount in 2017 was at US\$155.5 billion and it is expected to grow exponentially to US\$1 trillion by 2020⁹. (Figure 5)

⁸ See *Catalyzing Green Finance: A concept for Leveraging Blended Finance for Green Development*, Asian Development Bank, 2017.

⁹ See *Green Bonds as Bridge to the SDGs 2018*, Climate Bonds Initiative, 2018.

FIGURE 5: Upward Trajectory of Green Bond Issuance Globally



Source: Climate Bonds Initiative

2.5 Nexus of Sustainable Finance and Islamic Finance

The robust expansion of green finance in the past few years highlights the rising interests among investors in contributing to the fight against climate change. One interesting definition emerging from the Conference was that green finance uses financial instruments to allocate capital to achieve environmental purposes. Participants from the Conference identified this as the *raison d'être* for linking Islamic finance with green finance.

Similar to green finance, Islamic finance aims to promote and enhance sustainable development through the principles of fairness, equality and ethics. Such commonalities are deeply rooted in the underlying principles of *maqasid al-Shariah* that make clear the requirement for the protection of *maal* or property and *nasl* or progeny as example. As recommended in Islam, humans, as God's

vicegerents on earth, are entrusted to work for the greatest good of all species, individuals, and generations of God's creatures and creations.

Islamic finance's ability to attract new sources of funding that are not fully leveraged by green finance is progressively emerging as an important value proposition. This strengthens the reason for tapping on Islamic finance to incorporate the elements of green in its financing.

In July 2017, Malaysia marked a new milestone in both green financing and global sukuk arena with the inaugural issuance of the world's first green SRI sukuk by Tadau Energy. As at April 2018, there were five issuances of green sukuk with an approved issuance size of RM3.7 billion, out of which, RM2.4 billion has been issued to finance renewable energy projects and green building. (Table 1)

TABLE 1: Green Sukuk Issuance in Malaysia as at April 2018

Issuer	Program size (RM Million)	Issue date	Issued amount (RM Million)	Utilization of proceeds
Tadau Energy Sdn Bhd	250.00	27 July 2017	250.00	To finance 50 megawatt (MW) solar power plants in Sabah.
Quantum Solar Park (Semenanjung) Sdn Bhd	1,000.00	6 October 2017	1,000.00	To finance three 50 MW solar power plants in Kedah, Melaka, and Terengganu.
PNB Merdeka Ventures Sdn Bhd	2,000.00	29 December 2017	690.00	To fund an 83-storey office space, forming part of the Merdeka PNB118 tower project in Kuala Lumpur.
Sinar Kamiri Sdn Bhd	245.00	30 January 2018	245.00	To finance 49 MW solar power plant in Perak.
UiTM Solar Power Sdn Bhd	240.00	27 April 2018	222.30	To finance 50 MW solar power plant in Pahang.

Source: SC

Indonesia has also made their mark in the global sukuk market where they were the first to issue a sovereign green sukuk amounting US\$1.25 billion. The proceeds of the five-year sukuk *wakalah* will be used exclusively for spending in the form of budget allocation, subsidies or project funding of eligible green projects. It includes a broad range of sectors which promote the transition to a low-emission economy and climate resilient growth, including climate mitigation, adaptation and biodiversity.

The sukuk program was issued to only sectors that receive dark and medium to dark ratings from the Center for International Climate and

Environmental Research (CICERO), an external review provider. This is to reassure investors that the fund will be used for green projects.

The prospect of Islamic green finance is unprecedented. Shifting trends of many institutional investors towards becoming responsible investors reflect that the demand is on an upward trend. Meanwhile, there is still a limited supply of green financial instruments globally, especially for those seeking Shariah-compliant green investment opportunities. In harnessing the growth of Islamic green finance, it is important to focus on building the ecosystem and to have the right catalysts for the industry to fuel its own growth.

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CHAPTER
03

Building Blocks for Islamic Green Finance

OVERVIEW

The aim to expand the green sukuk as a primary instrument towards achieving sustainable financing initiatives requires understanding on the standards and guidelines, the internal green sukuk framework as well as an external review on the green sukuk issuance process as a whole. Different actors and jurisdictions have made efforts in developing the Islamic green finance market. This chapter explores key building blocks for Islamic green sukuk.

3.1 Developing Green Sukuk Standards and Guidelines

Experiences across the globe show that both private and public actors have had their fair share of contribution toward developing standards and guidelines for the green bond market. The MDBs, non-profit institutions and national governments have over the years worked independently and collaboratively to develop guidelines and standards. This development highlights how the public and the private sector have played instrumental roles in fostering green finance.

Clarity on standards and classifications of green assets is key in pursuing sustainable financing through instruments like green bonds and sukuk. Several bodies have contributed to ensuring that green finance has proper standard measures to avoid variations in the ways of structuring green bonds. To name a few, *Climate Bonds Standard* (CBS) by Climate Bonds Initiative (CBI), GBP by the International Capital Market Association (ICMA), SRI Sukuk Framework by SC, and *ASEAN Green Bond Standards* (ASEAN GBS) by the ASEAN Capital Markets Forum (ACMF) have

shaped the issuance of green bonds and sukuk globally.

3.1.1 Climate Bonds Standard

CBI is a global non-profit organization based in London with the core focus of mobilizing debt capital for climate change solutions. In response to the demands from investors, CBI launched the CBS in 2011, the first set of standards for verifying the credentials of the so-called 'green bonds'. With the issuance size of US\$11 billion in 2013, the green bonds have progressed to US\$155.5 billion in 2017. As at first half of 2018, 156 issuers from 31 countries have issued green bonds using this standard.

CBS sets out the criteria to verify certain green credentials of a bond or other debt instruments. It provides a robust approach in verifying that the funds are being used to finance projects and assets that are consistent with delivering a low carbon and climate resilient economy. Specifically, this includes projects or assets that directly contribute to develop low carbon industries, technologies and

practices that mitigate GHG consistent with avoiding dangerous climate change effects, which are able to adapt to the consequences of climate change. As a matter of clarity, the CBS is an environmental standard and not a substitute for financial due diligence. It is an authoritative standard that eases decision-making and focuses its attention on credible climate change solutions in the debt capital markets.

CBS also sets out the requirements to be met for issuers seeking climate bond certification. The requirements are separated into pre-issuance requirements, which need to be met for issuers seeking certification ahead of issuance, and post-issuance requirements, as well as continued certification following the issuance of the bond.

Pre-issuance requirements are designed to ensure that the issuer has established appropriate internal processes and controls prior to the issuance of the Certified Climate Bond. These internal processes and controls are sufficient to enable conformance with the CBS after the Climate Bond has been issued and allocation of the proceeds is underway.

Post-issuance sets out the requirements that apply to all Certified Climate Bonds after the issuance of the bond. Divided into three parts, these cover the general requirements, eligible projects and assets, as well as the specific bond types.

3.1.2 Green Bond Principles

With rapid growth, market players have sought to bring greater clarity to the definitions and processes associated with green bonds. To

promote integrity in the green bond market, ICMA introduced GBP as a set of voluntary guidelines. This was elaborated by key market participants under the co-ordination of the ICMA as its secretariat, which is responsible for advising on governance and other matters, as well as providing organisational support.

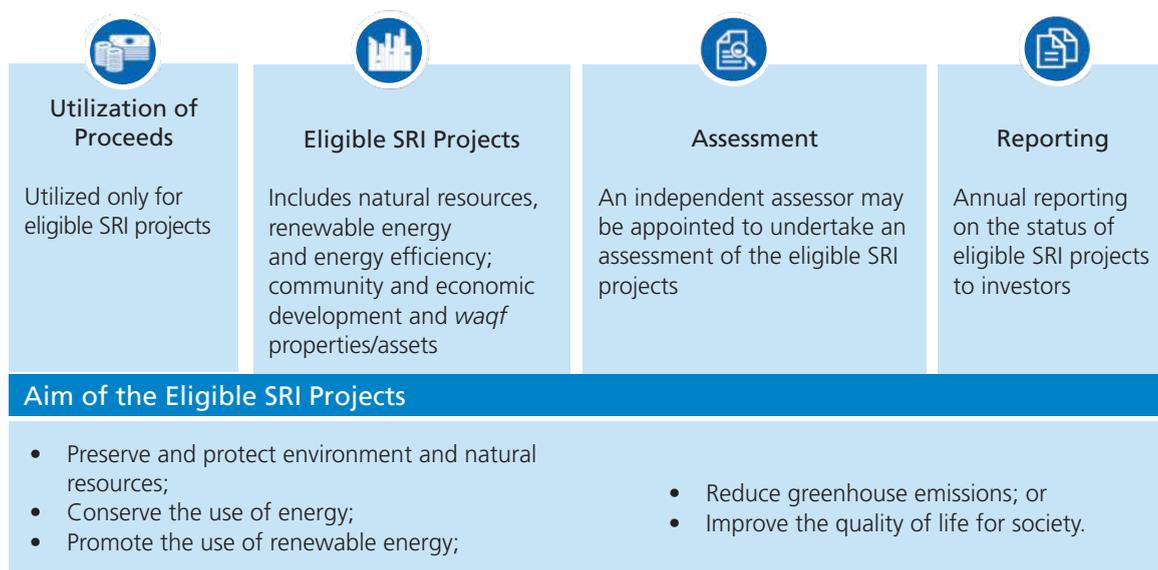
The GBP were launched in January 2014 with the support of a consortium of investment banks as the voluntary process guidelines intended for broader use by the market. The GBP recommend transparency and disclosure, as well as promote integrity in the development of the green bond market.

According to ICMA, the GBP are voluntary process guidelines that recommend transparency and disclosure. It also promotes integrity in the development of the green bond market by clarifying the approach for issuance. The GBP are intended for a broader use by the market – they provide issuers with guidance on the key components involved in launching a credible green bond; they aid investors by promoting availability of information necessary to evaluate the environmental impact of their green bonds investments; and they assist underwriters by moving the market towards expected disclosures that will facilitate transactions.

GBP emphasizes four core components namely the use of proceeds, the process of project selection and evaluation, management of proceeds and reporting. These principles, however, emerged in stages over the years under the stewardship of ICMA.

- The first component (use of proceeds) guarantees that issuers explicitly communicate to their respective investors on how their investments are being utilized.
 - The second component (project selection and evaluation) ensures that investors are being thoroughly informed about how issuers actually select which particular projects will receive the funds.
 - The third component (management of proceeds) requires issuers to account for the proceeds. What this means is that the issuers of green bonds, unlike ordinary bonds, have to specifically inform their respective investors on how exactly the project balance sheet unfolds e.g. construction of assets. Such information will keep investors abreast with stage-by-stage process of the project to ensure that the project does not only produce green impact but it is also done sustainably (green) throughout.
 - The fourth component (reporting) not only reflects the auditing of the project but more crucially, provides details of the project’s impact, which is not a typical requirement in ordinary financing. Issuers are responsible for providing their respective investors with a comprehensive review of the project and its implications on the environment.
- The GBP have been the focal point in terms of standards while classifying the industry norms. This encourages the engagement of investors and issuers in a robust dialogue to develop a framework that would fit the regional criteria particularly in the case of the ASEAN GBS.

FIGURE 1: Malaysia’s SRI Sukuk Framework



Source: SC

3.1.3 Malaysia's SRI Sukuk Framework

Malaysia is an example in the development of a sound framework for linking Islamic finance and the sustainable finance universe.

In 2014, the SC launched the SRI Sukuk Framework to facilitate the financing of SRI initiatives. These initiatives relate to SRI projects encompassing natural resources, renewable energy and energy efficiency, community and economic development, *waqf* properties and assets. (Figure 1)

The Framework forms part of the SC's developmental agenda to facilitate the creation of a conducive ecosystem for SRI issuers and investors.

Malaysia's experience in facilitating green sukuk issuance through the development of the relevant framework and ecosystem is expected to become a model in bridging Islamic finance with SRI and the green industry. To complement the SRI Sukuk Framework and promote greater utilization of green sukuk as a fundraising channel, several incentives have been introduced to attract green issuers including:

- Tax deduction until year of assessment 2020 on the issuance costs of SRI sukuk approved or authorized by or lodged with the SC;
- RM6 million Green SRI Sukuk Grant Scheme administered by Capital Markets Malaysia, to defray independent expert review costs incurred by sukuk issuers; and

- Tax exemption for recipients under the Green SRI Sukuk Grant Scheme from year of assessment 2018 to 2020.

3.1.4 ASEAN Green Bond Standards

The quest for international green standards does not only occur at the global level. At the regional level, there are continuing efforts to better streamline the issuance of green bonds. The ASEAN GBS is one such example, which was launched in November 2017. The ASEAN GBS were developed based on the GBP, tailored to meet the needs and commitment of the grouping.

The ASEAN GBS aim to provide specific guidance on how the GBP are to be applied across ASEAN countries in order for green bonds to be labelled as ASEAN Green Bonds. The standards specifically exclude fossil fuel-related projects and are intended to provide additional guidance on the application of the GBP, as well as enhance transparency, consistency and uniformity of ASEAN green bonds, which will contribute to the development of a new asset class.

Since its launch in November 2017, the ASEAN GBS have gained encouraging traction and there have been a total of five issuances from Malaysia and Singapore carrying the ASEAN GBS Green Bond label. The first sovereign sukuk in ASEAN issued by Indonesia is aligned with the ASEAN GBS. The progress of the ASEAN GBS demonstrates the region's increasing emphasis

on sustainable financing and underscores the capacity of the ASEAN GBS in providing guidance to issuers on issuing green bonds and the investors that have a credible reference point. Table 1 highlights the additional features of ASEAN GBS.

Table 1: Additional Features of ASEAN GBS

The ASEAN GBS are aligned and guided by four core components of the GBP, i.e. use of proceeds, process for project evaluation and selection, management of proceeds and reporting. Key additional features of the ASEAN GBS include:

- Eligible issuers of the ASEAN Green Bonds must have a geographical or economic connection to the ASEAN region;
- Fossil fuel power generation projects are excluded from the ambit of ASEAN GBS;
- To enable continuous accessibility to information, issuers are required to disclose information on the use of proceeds, project evaluation and selection, and management of proceeds not only in the issuance documents but on a public website designated by the issuer throughout the tenure of the bonds;
- Issuers are encouraged to provide more frequent periodic reporting to increase transparency on the allocation of proceeds; and
- While the appointment of an external review is voluntary under the ASEAN GBS, the external reviewer must have the relevant credentials and this information must also be publicly disclosed throughout the tenure of the bonds.

3.2 Devising Internal Green Sukuk Framework

One of the additional processes involved in the issuance of green sukuk is having an external review report to assess the alignment of the green sukuk with any particular green sukuk standards or guidelines, such as GBP or SRI Sukuk Framework. Before an external reviewer is appointed, issuers are recommended to develop their own internal green sukuk framework in compliance to the selected green standards and guidelines. They can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a green sukuk.

The internal green sukuk framework is a governance document which issuers specify the use of proceeds for the green sukuk issuance. This mostly entails the use of proceeds for eligible environmental-friendly projects that are, in a manner, consistent with the issuers sustainable values. Such specificity provides important disclosure to investors in making their investment decision. The types of activities covered by the green sukuk framework are engulfed with the core of the chosen green standards either, for example the GBP or ASEAN GBS.

Issuers must allow the trade-off between stringency and transparency in designing the green sukuk framework. Internal assessment of the eligible green project must undergo a thorough selection process prior to the issuance that would then be assessed by an external reviewer in ensuring the quality of the green sukuk.

In this context, the World Bank has developed the *Green Bond Process Implementation Guidelines* which outlines examples of mitigation (to reduce the adverse impact) and adaptation (to change and reduce the impact of the unavoidable, while maintaining focus on its social dimensions) projects that meets the World Bank's eligibility criteria for low-carbon and climate resilient development. In other words, any issuance of green bonds from the World Bank would be required to adhere to this standard.

The sovereign green sukuk by Indonesia has adopted a *Green Bond and Green Sukuk Issuance Framework* (Framework), under which it plans to finance and/or re-finance 'Eligible Green Projects' through the issuance of green bonds and sukuk. The Framework reveals that Indonesia is strongly committed to combating climate change as one of the nations that is most susceptible to climate-induced disasters. Its extensive tropical landscape and seascape with high biodiversity, high carbon stock values and energy as well as mineral resources are all contributing factors for the nation to be at the forefront of climate action and environmental protection. Indonesia's position which is close to the global ocean conveyor system, makes it particularly vulnerable to natural disasters that are likely to be exacerbated by climate change. It is with this background that Indonesia has adopted the Framework, and subsequently undertook the landmark sovereign green sukuk issuance (the first issuance under the Framework).

As for the world's first green sukuk issuer, Tadau Energy has developed a green sukuk framework,

which provides a sound framework for climate-friendly investments and environmental impacts of their projects. The proceeds will fund solar power development in Malaysia, which is a key technology to support the transition to a low-carbon and climate-resilient society. In the case of green sukuk issued by PNB Merdeka Ventures, the green sukuk framework was developed to ensure transparency, disclosure and integrity for the issuance of a green sukuk. This framework is built upon guidelines established by the SRI Sukuk Framework and ASEAN GBS.

Indeed, the internal green sukuk framework would be the main document for the external reviewer to conduct their assessment, enabling them to provide their opinions on the greenness of the project. The issuers should exercise extra care during this assessment as it would determine the greenness of the projects, and eventually would be the value added to the green sukuk issuance process.

3.3 Appointing External Reviewers

Although utilizing funds for green projects would be great on paper, issuing green sukuk requires an extensive assessment or review to show the 'soundness' and promotes best practices of the issuance. It is important to establish the eligibility of green projects to ensure that issuers meet all requirements of the green project selection and management based on the international standards and best practices.

This is where the role of external reviewers is crucial to ascertain the alignment of the sukuk program with green sukuk standards or guidelines. Although not mandatory, the appointment of external reviewers increased investors' confidence. As a result of an external reviewers, it indicates that the green sukuk as being true to its label. The role of external reviewers enhances accountability and transparency of Islamic green finance.

There has been a strong advocacy for external reviewers to preserve the integrity of the green bond market. An independent external review report enhances the credibility of a green bond issuer by supplementing the issuer's own disclosure. This also provides a level of certainty to investors, which then increases the level of investors' confidence in the fact that the proceeds from the issuance will go solely to fund environmentally beneficial projects.

In June 2018, ICMA launched the *Guidelines for Green, Social and Sustainability Bonds External Reviews*. These guidelines aim to promote best practices and complement the principles and other existing relevant guidance such as the Assurance Framework for CBS, the draft *EU Green Bond Standards* produced by the High-Level Expert Group on Sustainable Finance, and the ASEAN GBS.

According to these guidelines, there are several types of external review namely second-party opinion, verification, certification and green scoring/rating. These external reviews are predominantly carried out at the preliminary

stage of the green bonds issuance. Some providers of the review offer more than one type of service either separately or combined.

3.3.1 Second-Party Opinion

An institution with environmental expertise that is independent from the issuer may provide a second-party opinion. The institution should be independent from the issuer's adviser for its green bonds framework, or appropriate procedures such as information barriers will be implemented within the institution to ensure the independence of the second-party opinion.

A second-party opinion normally entails an assessment of the alignment with the 'Principles'¹. In particular, it can include an assessment of the issuers' overarching objectives, strategy, policy, and/or processes relating to environmental and evaluation of the environmental and/or social features of the type of projects intended for the use of proceeds².

One of the second-opinion party providers is CICERO, a climate research institute based in Oslo, Norway. The institute provides assessment for the issuers' framework on project selection and investment. It provides a "top-down" assessment of the framework, rather than a "bottom-up" evaluation of the environmental impact of projects (Figure 2).

In its green methodology, CICERO has three green shades, which gives transparent information on

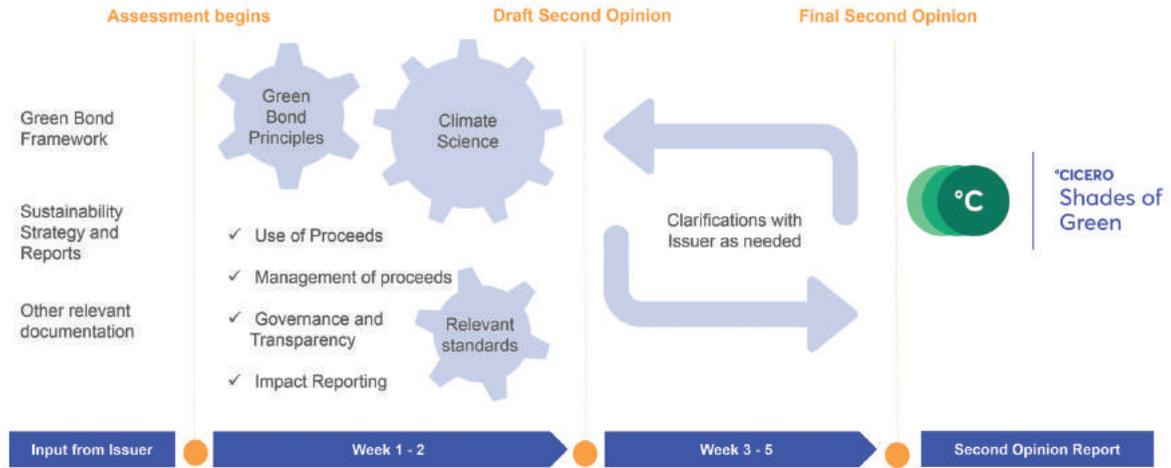
¹ The 'Principles' refers to the *Green Bond Principles*, *Social Bond Principles* and *Sustainability Bond Guidelines* under ICMA.

² See *Guidelines for Green, Social and Sustainability Bonds External Review*, ICMA, 2018.

how well a green bond aligns with a low-carbon climate resilient future. In the case of the world’s first green sukuk, Tadau Energy was classified as

a dark green project introduced for solar developments. (Figure 3)

FIGURE 2: CICERO Second Opinion Process



Source: CICERO

FIGURE 3: CICERO Shades of Green Second Opinions

SHADES OF GREEN	EXAMPLES
<p>Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future.</p>	<p>Wind energy projects with a governance structure that integrates environmental concerns</p>
<p>Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet.</p>	<p>Plug-in hybrid busses</p>
<p>Light green is allocated to projects and solutions that are environmentally friendly but do not by themselves represent or contribute to the long-term vision.</p>	<p>Efficiency in fossil fuel infrastructure that decrease cumulative emissions</p>
<p>Brown for projects that are in opposition to the long-term vision of a low carbon and climate resilient future.</p>	<p>New infrastructure for coal</p>

Source: CICERO

3.3.2 Verification and Certification

An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards, or claims made by the issuer. Evaluation of the environmentally or socially sustainable features of underlying assets may be termed as verification. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from green bonds proceeds, statement of environmental or social impact or alignment of reporting with the Principles may also be termed as verification³.

As for certification, it is robust and effective, vital to further raise confidence and transparency and increase growth within the mainstream debt capital markets. The CBS provide tools that allow investors and intermediaries to assess the environmental integrity of the bond, and are supported by the CBS board of investor representatives. The CBS fully integrates the GBP, and have spelled out the sector's specific technical criteria which is embedded with their taxonomy for eligible projects and assets (Figure 4).

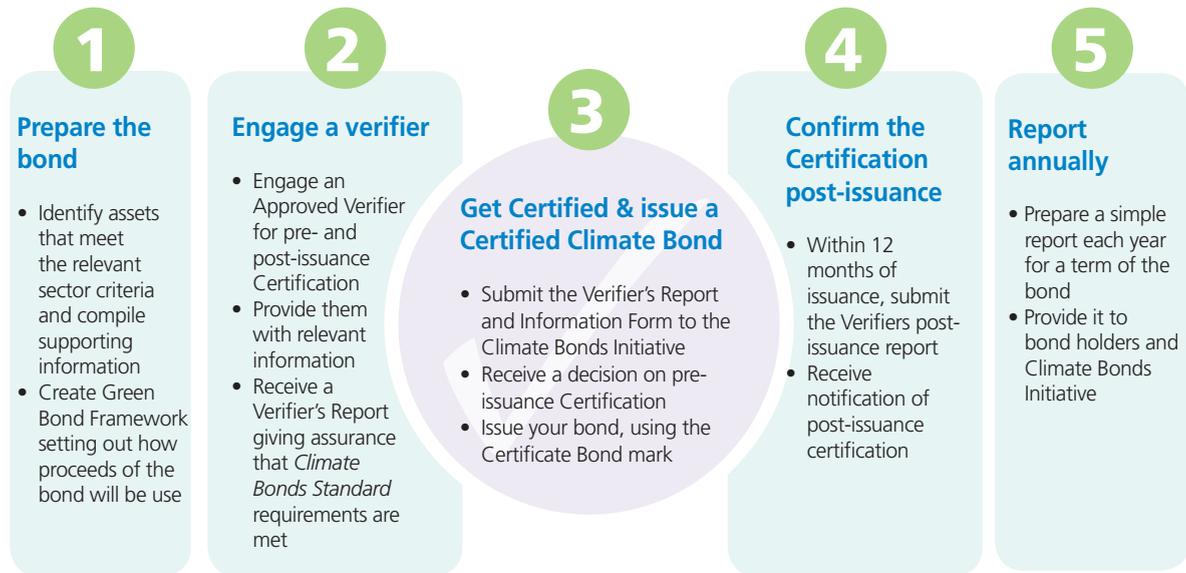
If the issuer wishes to issue the green bonds under the CBI standards, a list of approved verifiers is provided on CBI's website. The bonds

issuers are free to choose from this list to engage with a verifier that matches with their bonds' geographical coverage and sector criteria.

An issuer can have its green bond or associated green bond framework, or use of proceeds certified against a recognized external green standard or label. A standard or label defines specific criteria, and alignment with such criteria being normally tested by qualified and accredited third parties, which may verify consistency with the certification criteria.

A good example of the certification for green building is the PNB Merdeka Ventures Green SRI Sukuk RM2 billion programme, to fund its 83-storey office space which forms part of the Merdeka PNB118 tower project within the Warisan Merdeka. In addition, the project also has been graded as medium green by CICERO, the second opinion reviewer on its green sukuk framework. The results from the assessments presented that the mega tall project was pursuing a rigorous environmental program to gain a triple platinum sustainability certification under the Malaysian Green Building Index (GBI), Malaysian GreenRE program and the U.S. Green Building Council on Leadership in Energy and Environmental Design (LEED) program. The tower is now pre-certified at the highest level (Platinum) under GBI and GreenRE. It also expects to achieve a strong Gold or Platinum LEED certification.

³ See *Guidelines for Green, Social and Sustainability Bonds External Review*, ICMA, 2018.

FIGURE 4: Climate Bonds Certification Process for Issuers

Source: CBI

3.3.3 Green Bond Scoring/Rating

An issuer can have its green bond, associated green bond framework or a key feature such as use of proceeds evaluated or assessed by qualified third parties, which are specialised research providers or rating agencies according to an established

scoring/rating methodology. The output may include a focus on environmental and/or social performance data, the process relative to the principles, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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CHAPTER
04

Key Catalysts in Islamic Green Finance

OVERVIEW

The ecosystem around green bonds has developed over the years. The building blocks such as standards, guidelines and external reviews for green projects would play a key role in issuing quality green finance products and ensuring investors' trust. A holistic ecosystem needs to take into consideration the active role of public sector through the implementation of policies and green incentives, and the role of the private sector in promoting green financing for the investors.

Cost factor is also a concern for the issuer. To tackle climate change, a significant amount of funds are needed to realize such transition. Thus, incentives would be important to reduce cost and attract stakeholders to opt for green finance.

4.1 Role of Public Sector through Policy

Promoting the green finance market will be made more appealing among market participants if such effort is embedded within global and national policy goals. These policies are not just to redirect funds towards climate-related projects, but also enable the market to participate.

Some of the evidence of how green finance is being integrated into the global policy goals are:

- The World Bank and UN outlined a sustainability roadmap in 2017 which integrates sustainability considerations into its operations including the full costing of positive and negative externalities, leading to re-orientation to the flow of resources towards more inclusive and sustainable activities;
- The World Bank adopted the *Climate Change Action Plan* in April 2016, which lays out concrete actions to help countries deliver on their Nationally Determined Contributions (NDCs)¹. This sets ambitious targets for 2020 in high-impact areas, including clean energy, green transportation, climate-smart agriculture, while mobilizing the private sector to expand climate investments in developing countries;
- In 2016, all MDBs provided over US\$27 billion, of which 77% were labelled as mitigation and 23% as adaptation. From 2013 to 2015, MDBs' climate finance amounted to over one-third of developed countries climate financing support to developing countries, working to fulfil the 2020 promise of US\$100 billion under the United Nations agreement²;

¹ NDCs embody efforts by each country that signed the Paris Agreement to reduce national emissions and adapt to the impacts of climate change.

² See <http://en.people.cn/n3/2018/0906/c90000-9498060.html>.

- The G20 have reiterated their commitment to the Paris Agreement and SDGs by revealing the *Climate and Energy Action Plan for Growth* during their summit in 2017. This places sustainable renewables at the center stage in rejuvenating the global economy by addressing climate change. The action plan brings close collaboration among G20 members in tackling several key factors including environmental protection and energy access.

At the global landscape, a growing number of countries is developing a national sustainable roadmap. These roadmaps are to set and prioritise actions in tackling climate change while identifying the needs and barriers to implement such initiatives. Countries like Malaysia and Morocco, have been at the forefront in aligning their national public policies toward sustainable development.

4.1.1 Malaysia

Malaysia has long undergone policy reforms towards sustainable development. The process of 'greening' Malaysia's economy began as early as 1970s when regulations were introduced to manage pollution from the palm oil industry. Since then, the importance of environmental protection in Malaysia's economic development has been recognized with reference to the goal in the country's five-year development plan.

The Mid-Term Review of the Eleventh Malaysia Plan released in October 2018, with New Priorities and Emphases, aimed to reform existing policies

and outline the revised socio - economics targets for 2018-2020. The Mid-Term Review outlined six pillars to support inclusive growth and sustainable development. One of the pillars focuses on enhancing environmental sustainability through green growth for sustainability and resilience, with the introduction of several new legislations, policies and action plans, while existing financing mechanisms are strengthened to support the uptake of green initiatives. This is in line with the Malaysian government implementation of various initiatives in promoting green financing through major financial channels including banking, equity market and the fixed-income market.

In the last decade, the severity of climate change and its impacts has intensified the need for an urgent action to combat climate change. Malaysia's efforts have culminated in the introduction of a systemic architecture through the *National Green Technology Policy* and the *National Climate Change Policy*. Aligned with the national blueprint is the development of the *Green Technology Master Plan*, a framework that catalyzes green growth towards sustainable development, enabling Malaysia to position itself as a green technology hub by 2030.

Several key action plans were subsequently implemented. For instance, the Green Technology Financing Scheme (GTFS) administered by GreenTech Malaysia was introduced to provide financing to companies that supply and utilize green technology. Under the GTFS, all green products, equipment and systems must meet the underlying criteria. These include minimizing degradation of environment, promoting the use

of renewable sources, lowering or attaining zero emission of GHG, conserving the use of energy and natural resources, and promoting a healthy and improved environment for all forms of life, in order to be eligible for the financing scheme.

4.1.2 Morocco

Morocco is the forerunner when it comes to green initiative in the African region. This is observed by the government actively developing green-related policy such as the sustainable development policy that is part of a long-term environmental strategy characterised by the protection of natural resources and ecosystems.

Morocco is setting both a regional and international example with its commitment in the development of an environmentally sound policy. A multifaceted national strategy aims to reduce fossil fuel consumption through an increased energy efficiency, shifting to renewables while investing in better management of natural resources. Morocco aims to have 42% of its total energy generated from renewables by 2020 through the implementation of their *Renewable Energy and Energy Efficiency Plan*. Morocco expects to generate 52% of its electricity from the renewables by 2030.

Given this ambitious national energy plan, the Moroccan Capital Market Authority has the obligation to ensure that the capital markets re-act accordingly to ensure there are sufficient funds to finance such related projects. Morocco launched the 'Roadmap for Aligning the Moroccan Financial Sector with Sustainable Development' in November 2016 during the 22nd Conference of

the Parties in Marrakech, which was developed through the efforts of the Moroccan central bank, regulatory authorities and market associations which enables several Morocco authorities to put some of the recommendations into practice.

Actions underpinned by the public and private sectors have helped the financial system in transitioning to green and low carbon practices. These efforts tend to be in the form of guidelines to stakeholders in the short term. In the long term, however, there will be a need for the alignment of incentives to make green finance market itself more sustainable and resilient.

4.2 Green Incentives

Given that the green finance is still at its infant stage, the government may consider a push factor to assist the private sector to change from conventional business model to those that include green. Financial viability often articulates the attractiveness of green issuance, which can be in a form of incentives. These are often provided in terms of economic incentives namely subsidies, tax exemptions and preferential tariff. Providing incentives can help reduce the costs of green adoption and certification.

While these extrinsic incentives are common, there are also the less common intrinsic incentives that prove to be more subtle, i.e. the soft incentives. Such incentives educate market participants by inculcating personal satisfaction and reward through ethical (and environmentally sound) business conduct. They also instill knowledge and its power towards creating sustainable values in business and investment.

Malaysia, for example, presents a unique energy investment scenario. The country currently produces sufficient energy for itself. Electricity production in Malaysia currently generates surplus although in aligning itself with the sustainability objectives, Malaysia wants to increase its renewable energy stock in its installed capacity from 20% to 30% between 2020 and 2030. This requires a significant amount of funds given the increasing role of green energy to realize such a transition. The problem though, energy prices in Malaysia are one of the lowest in the world. This means that the feed-in tariff may not be so appealing, hence material incentives (financial) are needed.

To strengthen the development of green technology, Malaysia continues to provide incentives in the form of Investment Tax Allowance (ITA) for the purchase of green technology assets

and income tax exemption for the use of green technology services and system (Table 1). For example, incentives announced in Budget 2014 covered a broader scope of green technology activities such as energy, transportation, building, waste management and supporting services activities.

4.3 Role of Private Sector to Promote Green Finance

4.3.1 Growing Participation from Private Sector

As the government is actively promoting green agenda via policy and incentives, the participation of the private sector is now even more imperative. The private sector in Malaysia, which is largely

TABLE 1: Incentives for Green Industry in Malaysia

Tax Incentive for Green Technology Project	Tax Incentive for Green Technology Services	Tax Incentive for Purchase of Green Technology Assets
ITA of 100% to the qualifying capital expenditure incurred on a green technology project from 2013 until 2020. The allowance can be offset against 70% of the statutory income in the year of assessment. Unutilized allowances can be carried forward until they are fully absorbed.	Income tax exemption of 100% for the statutory income from 2013 until 2020. Green technology services related to renewable energy, energy efficiency, electric vehicle, green building, green data centre, green certification and verification, and green township can qualify for this tax incentive.	ITA of 100% to the qualifying capital expenditure incurred on green technology asset from 2013 until 2020. The allowance can be offset against 70% of the statutory income in the year of assessment. Unutilized allowances can be carried forward until they are fully absorbed.

Source: SC

controlled by institutional investors, have been actively streamlining ESG factors in their investment portfolios. They serve as excellent examples of actors with strong internal drive to move towards SRI. What is more rewarding to learn is that their

strategies involve not only building capabilities from within but also developing knowledge capacity and disseminating key information with stakeholders outside their organization.

Dissecting Incentives (Issues Relating to Incentives)

While incentives are important, they are not meant to be forever. There are limits and tipping points when incentives can become disruptive. This is where the concept of green must be understood correctly to ensure that it is not over-incentivizing green.

a. Is There a Limit to Incentives?

Being green is to reduce the production of carbon emission in relation to the existing benchmark. It does not mean that one abandons everything for the sake of going green. Operationalizing the concept within a specific context is important. From a critical perspective, even using solar panel may not be necessarily green in real terms. The silica found in the panel is extracted from mining which requires significant use of carbon. It is difficult to gauge what is the net green effect. It all then results in to mathematical calculation of greenness, for it is truly an intangible concept. Incentives (or disincentives) must take this into account.

b. Are Incentives Disruptive?

Incentives are useful but should have a defined period of use, since they may send the wrong signal of pursuing transformative climate action for material rewards instead of saving the planet. Incentives may also prevent a more competitive alternative from entering the market. For example, the highly incentivized Power Purchase Agreement (PPA) in the electricity sector is one factor that has hampered the growth of renewables in Malaysia as the structural constraint make it difficult for a transformative change.

c. Do Incentives Potentially Increase Cost?

For as long as incentives facilitate transition from brown to green economy, they are justified. A word of caution though; incentives driven by the objective of overwriting risks associated with green products in general can signal a premium to the market in the long run. As issuing green products require additional steps and procedures (especially when these requirements are made mandatory), these additional costs will have to be reflected in the final pricing.

In principle, institutional investors have the duty to act in the best long-term interests of their beneficiaries. In this fiduciary role, there is a growing number of these organizations which believe that ESG issues can affect the performance of investment portfolios. As a result, there are now institutional investors that have become signatories to the UN PRI.

The UN PRI principles are voluntary and consist of an aspirational set of investment principles that offer a menu of possible actions for incorporating ESG issues into investment practice. The principles complement the UN Global Compact, which requires companies to embed in their strategies and operations a set of universal principles in the areas of human rights, labour standards, environment and anti-corruption. They are also a natural extension of the work of the UN Environment Program Finance Initiative (UNEP FI), which has helped create greater awareness to the importance of environmental and social issues.

Malaysia's pension management entity for public sector employees, Kumpulan Wang Persaraan *Diperbadankan* (KWAP), or the Retirement Fund (Incorporated) became the first pension fund in the Southeast Asian region to sign the UN PRI. It championed good governance, shareholder activism and continuously aligns its corporate objectives with the national agenda namely green initiative and gender equality (women's representation on the board). KWAP has now reached the asset size of RM100 billion, and sees itself not merely as an investor but a responsible investor.

Similar observation applies to BNP Paribas Asset Management. As one of the founding signatories of the UN PRI, it has been integrating ESG across all its asset classes. Although traditionally ESG has been closely associated with the equity side, BNP Paribas made it a point to implement ESG across its fixed income assets. This is made in line with the company's internal strategy that comprises allocation of capital, responsible engagement with companies, transparency and commitment.

Transitioning to a low-carbon, climate-resilient and sustainable development pathway require significant finance and investment, and a shift in the way both the public and private sectors invest. To support the nations in achieving their NDCs, there is a need to engage with the private sector to mobilize resources, innovation and know-how. The Paris Agreement requires each party to prepare, communicate and maintain successive NDCs that it intends to achieve. Parties shall pursue domestic mitigation measures to achieve the objectives of such contributions.

Contrary to general belief, private sector participation in sustainable growth can often occur spontaneously rather than requiring a push from the government since enterprises are able to assess the cost advantages of implementing green practices within their operations. Companies are engaging in green growth initiatives to improve their sustainability, and increase efficiency gains through better resource usage, or meet international labelling criteria. Even those initiatives that are not specifically aimed at reducing costs or improving

security and efficiency such as initiatives on green corporate social responsibility can improve their international branding image, allowing companies access to new country markets.

Even though forward-looking businesses do have varied incentives to implement green growth practices, these companies often follow their own goals and agenda. Such initiatives that they enact will be for their own benefit, or are often forms of self-promotion rather than tangible and co-ordinated efforts to ensure long-term sustainability and growth. Hence, in order to build up a wider support and uptake for green growth policies within the private sector, the government needs to engage with businesses.

4.3.2 Raising Awareness Towards Better Informed Investors

To boost green finance, opportunities will require all actors in the system to improve their engagement, understanding and competency on these issues. For example, professional and industry bodies should be engaged by investors to develop how ESG issues are incorporated within their professional designations. Similarly, educational programs for issuers should be developed to raise awareness on green capital markets, and in turn create greater demand for sustainable financial services, respectively.

Both public and private sectors should deliver rapid improvements on the literacy of sustainable finance and educate citizens about how their investments can shape the world. These sectors

are encouraged to collaborate with the industry, educational and consumer groups, for instance, the Green Finance Institute, an initiative that champions sustainable finance in the UK and abroad in designing and delivering financial literacy programs which are delivered in secondary, tertiary and continuing education. For example, in the UK, financial capability qualifications are currently available for 14 to 19 year olds, and are offered in approximately 700 schools nationwide.

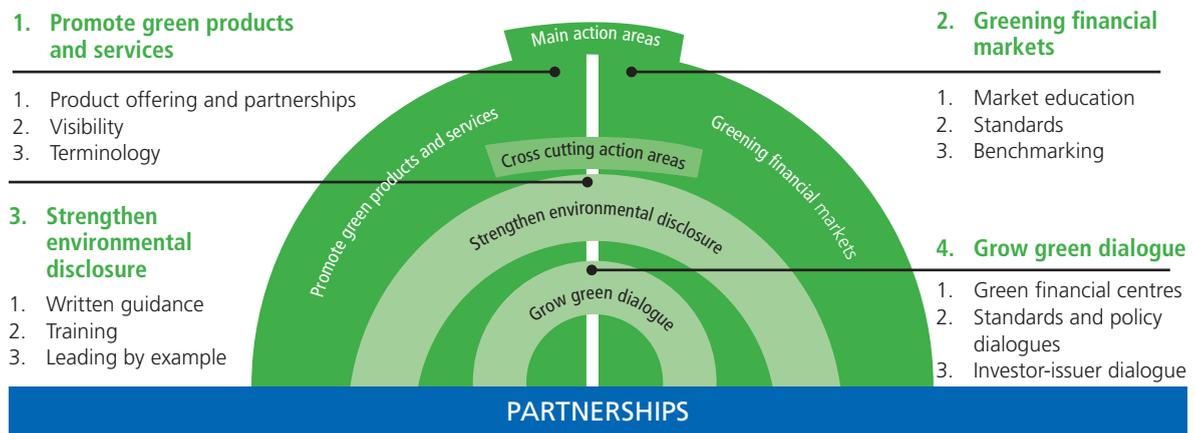
Current awareness on the importance of going green is causing no shortage of demand for green investment products but the supply of green investment products is still limited and not large enough to cater to the investors' huge appetite. As a result, instruments like green bonds are sometimes priced higher than their plain vanilla equivalents. Thus, this indicates the lack of education and awareness on the supply side to understand and issue more green-related investment products such as green sukuk.

Addressing both the demand and supply sides of green investments require a sound legal and regulatory framework. In support of such requirements, the Green Climate Fund, a financial mechanism under the UN Framework Convention on Climate Change, which helps fund climate finance investment, has developed a readiness program. This program facilitates the support of up to US\$1 million per annum to any country among others to set up a regulatory framework necessary in pursuing green finance in the capital market thus increasing the confidence of market players.

At the same time, stock exchanges are also actively participating in a movement coined as the UN Sustainable Stock Exchanges Initiative (UN SSE), a collaboration by UN partnership program of the UN Conference on Trade and Development (UNCTAD), the UN Global Compact, the UN (UNEP FI)³, and the UN PRI. The objective of UN SSE is to build the capacity of stock exchanges and securities market regulators to promote responsible investment in sustainable development and advance corporate performance on the ESG issues (Figure 1).

The UN SSE model serves as a basis for discussions with both investors and issuers to determine own guidance. The UNSSE model is also recommending for other exchanges to join to introduce similar support for issuers in their markets on how ESG information is and could be used in the investment process to ensure transparent and efficient disclosure of such data.

FIGURE 1: UN SSE Model on Green Finance Action Plan



Source: United Nations

³ UNEP FI is a peer-to-peer (P2P) learning platform that explores how exchanges (in collaboration with policymakers, regulators, investors and companies) can promote responsible investment for sustainable development.

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CHAPTER
05

Developing A Successful Green Sukuk Program

OVERVIEW

Green sukuk are similar to green bonds in their structuring process. Indeed, the essence of the Shariah framework is similar to a green bond framework i.e. defining the use of proceeds and the process of managing the proceeds, with Shariah scholars providing second party opinion as independent scholars.

This chapter discusses key factors that will ensure a successful structuring of a sukuk program and key considerations learning from the experience of recent trends in green finance. To draw on these additional insights, this chapter also highlights three green sukuk case studies and three green technology showcases that are potential for issuance of Islamic green financing.

5.1 Structuring Green Sukuk

Issuing green sukuk would involve similar process of issuing normal sukuk. The issuer needs to engage with principal adviser as the first step. The principal adviser will facilitate the overall transactions including the appointment of financing parties, agreement on the terms and conditions of the sukuk, exercise the due diligence process, facilitate green sukuk certification, getting approval from the Shariah adviser, facilitate the issuance rating process, marketing to investors and issuing the sukuk. Figure 1 illustrates key aspects of green sukuk issuance process.

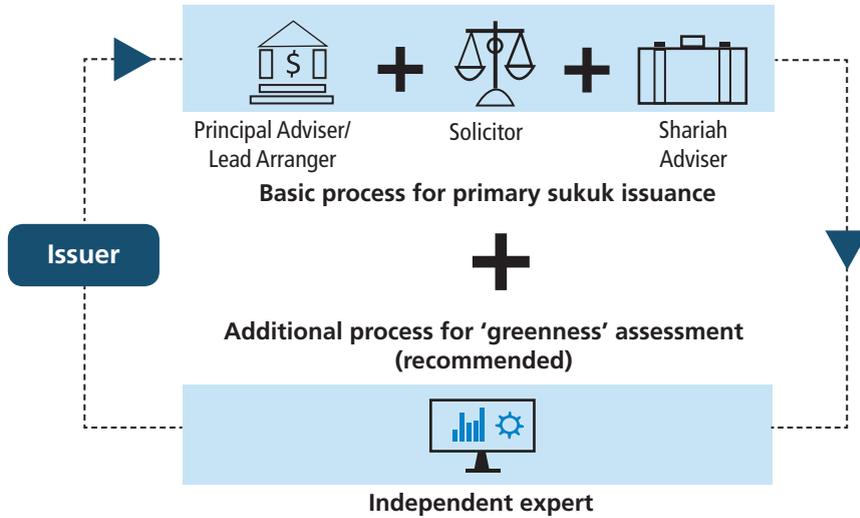
Being Shariah-compliant is a key factor to this structure. Sukuk are structured based on various Shariah contracts to create financial obligations and relationships between issuers and investors. Generally, the common underlying Shariah contracts used in structuring sukuk are lease-based,

agency-based, sale-based and partnership-based. All sukuk transactions must comply with Shariah principles and rules at all times.

In relations to green sukuk, the issuers are encouraged to disclose any information within the context of the issuers' overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and green standards or certifications as referred in the project selection. These aspects must be emphasized by the issuers, particularly to accelerate the learning process of the industry towards meeting the investors expectations.

For the proceeds to be eligible for green projects sukuk investors also need to know that the mobilized funds will not go into activities prohibited by Shariah, hence creating the need of Shariah's approval for issuances.

FIGURE 1: Green Sukuk Issuing Process



The sustainable development of the green sukuk market will therefore require the improved understanding of Shariah scholars on the green aspects of these financial instruments.

Green sukuk could result in bringing in more investors from western countries with sustainable investment mandates into sukuk markets.

The appeal of green sukuk is its potential to attract a more diverse investor universe as it is available to conventional and Islamic investors as well as green investors (Figure 2). For the Islamic investors, there are significant commonalities in the principles and values underlying both green and Islamic financing. Green finance is very much aligned to Islamic finance in terms of advocating positive values such as social responsibility, shared prosperity and sustainable growth. As for green investors, green sukuk would provide a new avenue to meet their investment goals for green.

FIGURE 2: Green Sukuk Attracts Wider Investor Base

	NON-GREEN	GREEN
BOND	Conventional Investor	Conventional Investor + Green Investor
SUKUK	Conventional Investor + Islamic Investor	All Investors

5.2 Green Sukuk Case Studies

5.2.1 Solar Sukuk Program – Quantum Solar Park (Semenanjung) Sdn Bhd

Quantum Solar Park (Semenanjung) Sdn Bhd (QSPS), a special purpose vehicle, issued the largest solar project linked to green sukuk. The proceeds from the sukuk issuance will be used to build three large-scale solar photovoltaic plants in the states of Malaysia in Kedah, Melaka and Terengganu at a total cost of RM1.25 billion. Collectively, the projects are expected to generate and supply about 282,000 MW of electricity annually to Malaysia's electric utility company, Tenaga Nasional, under the respective PPA over a period of 21 years. The project will cover a

combined land area of almost 600 acres. (Table 1) In terms of social impact as well as the sustainability aspects of the project, it is expected to reduce 193,000 tonnes of carbon per year. This is enough to power up about 90,000 over homes as well as create 3,000 jobs.

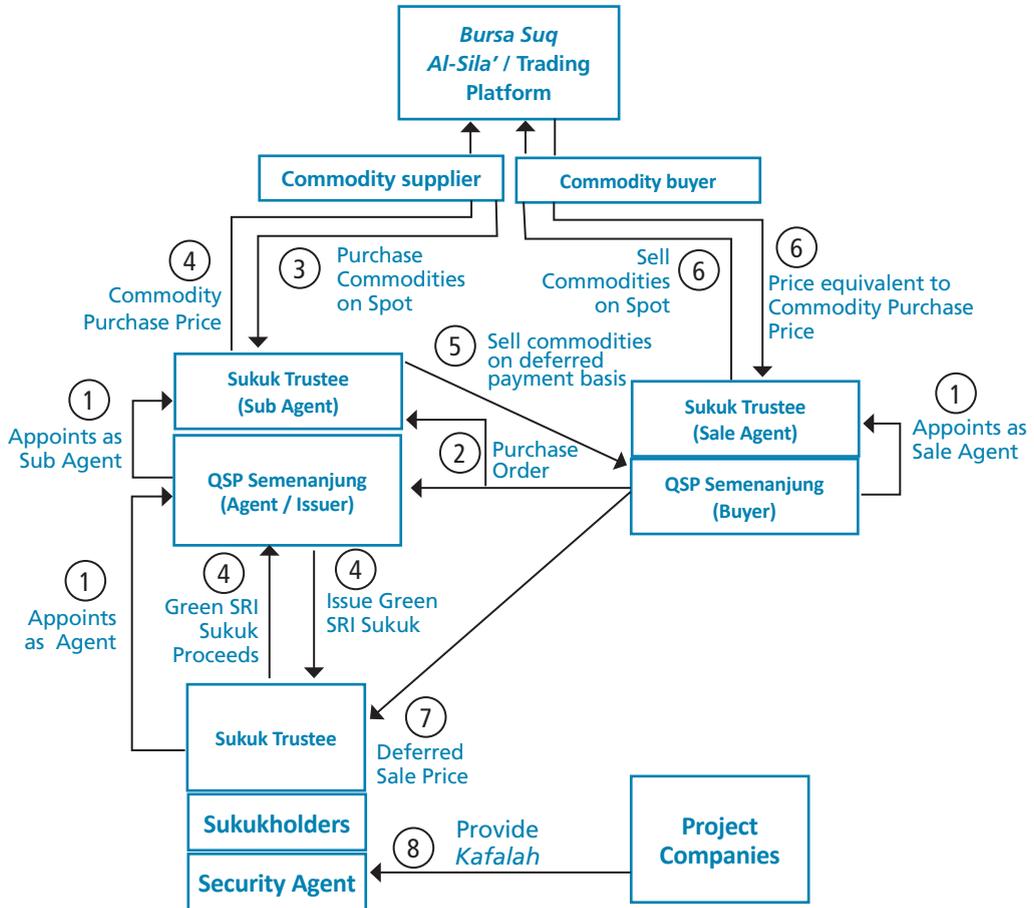
The parent company, Itramas Corporation Sdn Bhd, has been in green projects for the last 18 years. Hence, going green is something that the issuer aspires to do as part of the company's philosophy. The issuer had a very short timeframe to construct these plants because the government authority had identified this project as a fast track project category. The main concern was how long it would take to get the certification, the social impact study and the environmental impact study done in order to be labelled as green.

TABLE 1: Quantum Solar Park (Semenanjung) Sdn Bhd Sukuk Highlight

Issuer	Quantum Solar Park (Semenanjung) Sdn Bhd
Issue size	RM1 billion
Date of issuance	October 2017
Purpose	To finance the development of three 50 MW solar power plants in Malaysia
Tenor	1.5 to 17.5 years
Profit rates	4.81% – 6.16%
Payment	Semi-annual basis
Currency	Malaysian ringgit
Lead arranger	CIMB Investment Bank and Maybank Investment Bank
Governing law	Malaysia law
Solicitor	Adnan Sundra & Low, Zaid Ibrahim & Co.
Rating	'AA'
Shariah adviser	CIMB Islamic Bank
Structure	<i>Murabahah</i> structure (<i>Tawarruq</i> arrangement)

Source: Extracted from Quantum Solar Park (Semenanjung) Sdn Bhd's Principal Terms and Conditions (PTC)

FIGURE 3: Quantum Solar Park (Semenanjung) Sdn Bhd Sukuk Structure – Commodity Murabahah via Tawarruq



Source: Extracted from Quantum Solar Park (Semenanjung) Sdn Bhd's PTC

One of the questions that arose was how to tranche the sukuk because the project consists of three separate plants as the PPA were signed separately. QSPS decided to combine the three projects and put it on the holding company and issuer of the company. The long-tenure sukuk (with 36 tranches from one year notes up to 18 year notes) suits especially the Independent Power Producer projects where the return of investment or payback period takes more than 10 years.

As solar projects are not so familiar within the country itself, thus the QSPS conducted many roadshows to educate investors. Other challenges for investors would be on the certainty of cash flow.

5.2.2 Green Building Sukuk – PNB Merdeka Ventures Sdn Bhd

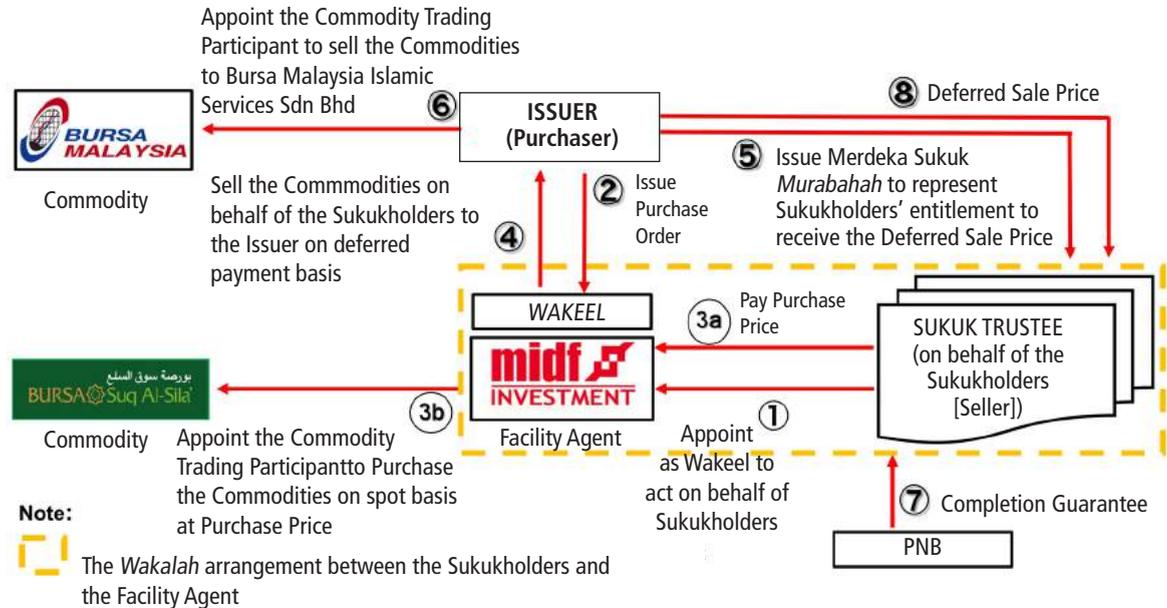
Malaysian government-linked investment firm, Permodalan Nasional Bhd (PNB) launched RM2 billion sukuk programme to fund its 83-storey office tower project, forming part of the Merdeka PNB118 tower. The issuer was PNB Merdeka Ventures Sdn Bhd, which is a wholly owned subsidiary of PNB. The 15-year tenure unrated green sukuk named the Merdeka ASEAN Green SRI Sukuk, adopted the newly launched ASEAN GBS. Upon completion by end 2020, this building will be the tallest building in Southeast Asia. The financing facility is the third, and largest yet, green sukuk to be launched in Malaysia. (Table 2). This issuance is the first sukuk that is dually recognised under the SRI Sukuk Framework and the ASEAN GBS.

TABLE 2: PNB Merdeka Ventures Sdn Bhd Sukuk Highlight

Issuer	PNB Merdeka Ventures Sdn Bhd
Issue size	RM2 billion
Date of issuance	December 2017
Purpose	The proceeds shall be utilized to partly finance the Merdeka PNB118 Tower
Tenor	15 years
Profit rates	Fixed profit rate to be agreed between the issuer and the Lead Manager(s) prior to each issuance of the Merdeka ASEAN Green SRI Sukuk
Payment	Semi-annual basis
Currency	Malaysian ringgit
Lead arranger	MIDF Amanah Investment Bank Bhd
Governing law	Malaysia law
Solicitor	Zul Rafique & Partners
Rating	Unrated
Shariah advisor	MIDF Shariah Committee
Structure	<i>Murabahah Tawarruq</i> arrangement and <i>Wakalah</i>

Source: Extracted from PNB Merdeka Ventures Sdn Bhd's PTC

FIGURE 4: PNB Merdeka Ventures Sukuk Structure – Commodity Murabahah via Tawarruq



Source: Extracted from PNB Merdeka Ventures Sdn Bhd's PTC

In terms of experience, as PNB was looking at various modes of financing, it came to know that there was a possibility of turning a normal sukuk into green sukuk. This is based on the CBI's taxonomy, classifying property assets under low carbon buildings category. One of the key objectives is to demonstrate that the company is serious about ESG issues. Secondly, it also provides reputational benefits to the issuer. The sukuk also enables the tracking of proceeds for reporting purposes. This exemplifies PNB's commitment to use the fund only for green building purposes.

There is a need to ring-fence the green aspect for the business activity. The tower comprises offices and a hotel at the top. One of the issuer's commitments is that it will only use the proceeds strictly for the tower. Under normal issuances,

this is not disclosed to investors but because of the green sukuk requirements, there is a need to put in the issuer's website or at least an official letter to the investors. These are the things that the issuer is now following through. This must be done in the next two years (minimum) until the sukuk mature in the next 15 years.

As the project takes about five years to complete, there is a need to limit exposure to currency exchange risk. As such, the sukuk was issued in Ringgit Malaysia. To enable investors to follow the development, PNB Merdeka Ventures will provide an annual letter to investors including the total amount disbursed and use of funds as well as the environmental impact reporting on energy, carbon, water and waste. The tower must also show that it has sustainability features.

5.2.3 Sovereign Green Sukuk – Indonesia

The US\$1.25 billion five-year sukuk is the world's first sovereign green sukuk, which is part of US\$3 billion issuance that Indonesia managed to implement when it developed the sukuk within two months with the assistance of the World Bank. It was issued under the Indonesia's Green Bond and Green Sukuk Framework, which was developed based on the GBP, and its issuance of the sovereign green sukuk is also aligned with the ASEAN GBS. The Indonesia's Sovereign Green

Sukuk under this issuance consists of state-owned assets including land and buildings (51%) and project assets which are under construction or to be constructed (49%). (Table 3)

The Government of Indonesia already has the experience in structuring a global sukuk under the *wakalah* structure. It came to their attention that some of the projects that were used as underlying assets for previous issuances have already met the green standards. This achievement is contributed by the existing green consideration, which is already in place such as tagging of the

TABLE 3: Indonesia Sovereign Green Sukuk Highlight

Issuer	Perusahaan Penerbit SBSN Indonesia III
Issue size	US\$1.25 billion
Date of issuance	February 2018
Purpose	Allocated to climate of environment-related projects
Tenor	5 years
Profit rates	Green sukuk: 3.75%
Payment	Annual basis
Currency	US Dollar
Lead arranger	Dubai Islamic Bank, CIMB, Citigroup, HSBC and Abu Dhabi Islamic Bank
Governing law	English and Indonesian laws
Solicitor	Clifford Chance
Rating	BAA3 by Moody's
Shariah advisor	Shariah Advisory Board of Citi Islamic Investment Bank, CIMB Islamic Bank, Dubai Islamic Bank PJSC
Structure	<i>Wakalah</i>

Source: Extracted from Offering Memorandum of Perusahaan Penerbit SBSN Indonesia III

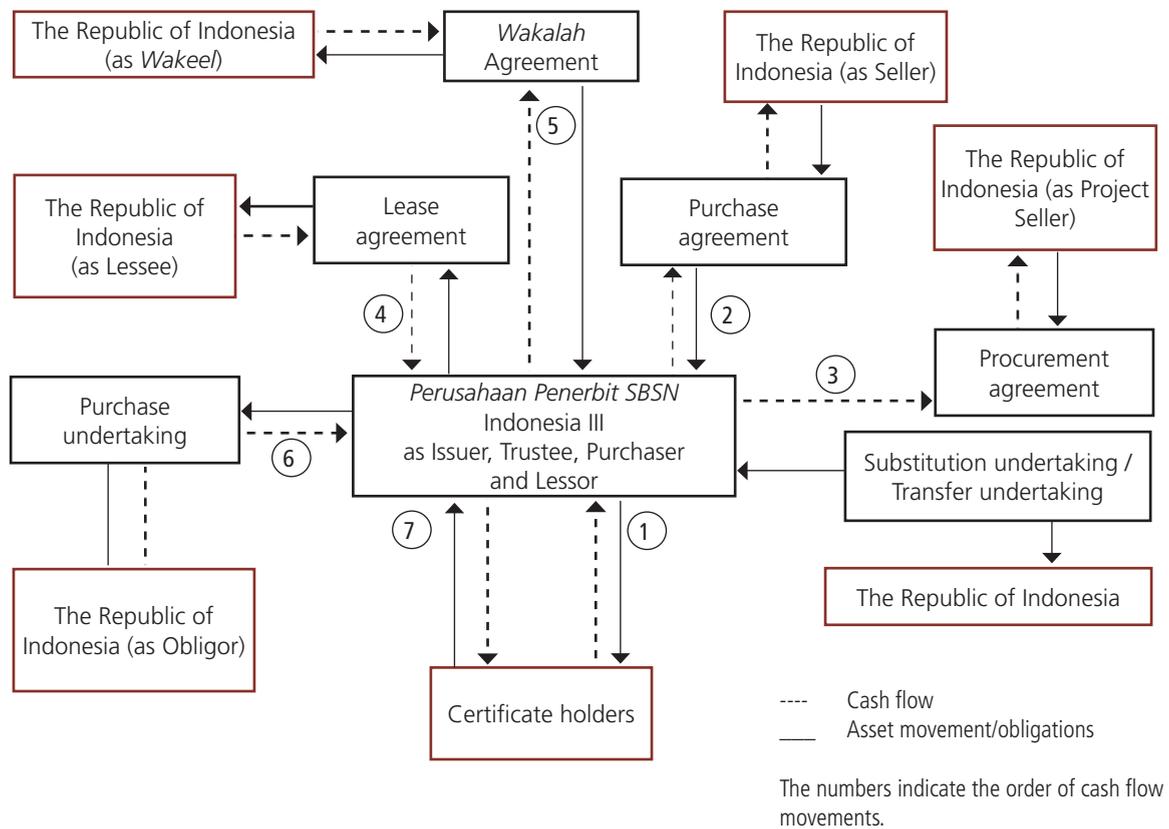
green assets as well as reporting on the green. The structuring team provided CICERO with nine eligible green sectors. Some of which received a dark green certification where Indonesia focused on issuing the sukuk to these sectors to meet investors' demands.

Malaysia, and about 25% allocated for Asian investors, excluding Indonesia and Malaysia. A sum of 18% allocated to US investors, 15% to Europe investors and 10% allocated for Indonesian investors. The sukuk has tapped new green investors of about 29%.

The response for the green sukuk deal was overwhelming. It was oversubscribed by 2.4 times for the deal and was well distributed among investors. Green sukuk was also able to tap beyond Shariah investors. About 32% allocated for Islamic investors were from the Middle East and

Among the concern was the reporting mechanism as it includes the impact of the projects for carbon reductions. As outlined in the CICERO document, the Ministry of Finance of the Republic of Indonesia prepares and publishes a *Green Bond and Green Sukuk Report* annually on the allocation and impact

FIGURE 5: Indonesia Sovereign Green Sukuk Structure – Wakalah Series



Source: Extracted from Offering Memorandum of Perusahaan Penerbit SBSN Indonesia III

on the use of the proceeds of each green bond and green sukuk outstanding. The report contains a list of all projects to which green bonds and green sukuk proceeds have been allocated, and estimation of the environmental benefits arising from the implementation of eligible green projects aggregated by sector (project category).

Roadshows were conducted across key global financial hubs in Kuala Lumpur, Paris, London, Amsterdam and Dubai. Paris and Amsterdam were also considered due to the high concentration of socially responsible investors. Indonesia conducted its first Green Financing Summit in Jakarta to increase awareness to improve the condition of the environment.

5.3 Green Technology Showcases

The Conference presented three green technology showcases that put things into real perspective of pursuing green development projects. These green technology showcases shared example of climate-friendly projects that can be potentially financed via green sukuk. There are the climate-friendly affordable housing project by Perumnas, Indonesia, integrated waste management by Cenviro, Malaysia and clean energy projects by Cenergi, Malaysia.

These different green development showcases represent opportunities for enthusiastic green investors. Islamic green financiers and investors alike can refer to these showcases to develop concrete ideas to create more innovative green financial solution.

Box 1

Perumnas – Development of Affordable Housing

Perumnas or Perumahan Nasional is Indonesia's state-owned housing company that has been in existence since early 1970s. Its three main responsibilities are to manage government-owned landbanks, develop affordable housing for the people and manage government-owned buildings. Overall, Perumnas' main goal of providing affordable housing for the people effectively qualifies itself as potential SRI-related investment opportunities.



This pertains to the fact that Perumnas' housing development projects specifically target the medium to low income earners with a maximum monthly salary of equal or less than IDR7.5 million (about US\$518). These income earners variably exhibit their capability to own or rent houses. Yet, they constitute the majority of critical manpower in highly industrialized grand Jakarta areas aptly known as Jabodetabek. Bringing this critical manpower closer to the workplace is Perumnas' vital objective to facilitate work-life balance that can result in higher productivity.

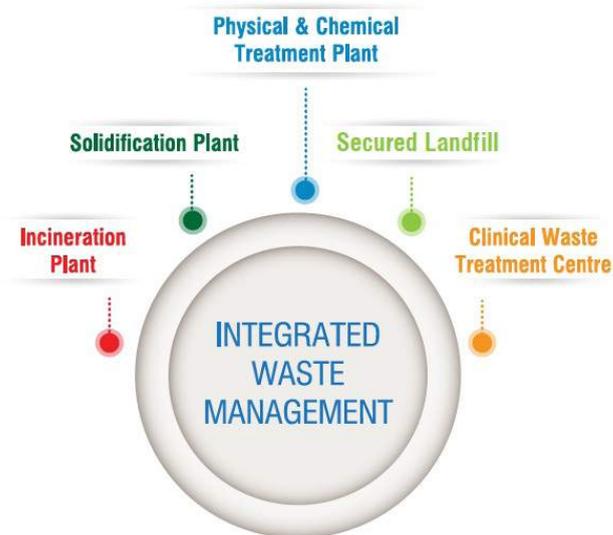
Perumnas' green *modus operandi* strives to reduce the need for private transportation among this critical manpower. Instead, they encourage the use of public transportation such as trains by developing housing projects nearby train stations. Additionally, Perumnas adopts the vertical housing development approach where housing projects are being developed as part of an integrated development or redevelopment (rehabilitation of buildings) project incorporating residential and non-residential spaces. These multifunctional buildings integrate holistic lifestyle under one roof. The outcome are net benefits to the environment with less pollution.

Box 2

Cenviro – Integrated Waste Management Centre

Cenviro is the flagship of Khazanah Nasional Bhd’s investment in sustainable development. It owns and operates Malaysia’s first integrated waste management centre. Apart from providing integrated solid waste management, Cenviro also manages electronic wastes.

Being an integrated waste manager, Cenviro offers a whole-chain waste management solution beginning with the collection, treatment, recycling, recovery and final disposal. These various functions are driven by several subsidiary entities with each its specialization namely: Kualiti Alam in toxic waste management; E-Idaman in household waste management; Shan Poornam Metals in hazardous electronic waste management; and Epic, Cenviro’s center of excellence focusing on training and skill development for the waste management industry. Other subsidiaries also deal with transportation and marketing aspects of waste management.



Cenviro has been raising the standard for waste management in Malaysia. This is done through adopting best practices for waste management and working collaboratively with the Department of Environment. The collaborative effort or project with relevant public agencies have seen Cenviro providing ideas for new legislation on environment to be adopted.

Two of Cenviro’s high social- and environmental-impact initiatives are its Recycle for Life program and waste-to-energy initiative. The Recycle for Life program aims at encouraging recycling behavior among school children whereby for every recyclable collected, Cenviro rewards these children with monetary values stored in a smart card. They can then spend the money to purchase books, food or other eligible items at participating outlets.

As for the waste-to-energy initiative, Cenviro, through its plant, saves landfill space whereby instead of sending waste to the landfill, the waste is being treated for energy fuel to generate electricity. Currently, Cenviro’s plant generates 3.4 megawatts of electricity and it exports 100% of this electricity to the national grid.

Box 3

Cenergi – Renewable Energy Business

Cenergi is involved in two core businesses. Firstly, the renewable energy business is one of the success stories under the national renewable energy program. Cenergi has four operating biogas plants located in local communities, employing staff from those communities itself. Secondly, the energy efficiency business has seen Cenergi to be part of RM14 million (US\$3.5 million) energy performance contract (EPC) with a local university. The project is implemented with the support from the Malaysian Debt Ventures. All of Cenergi's current investments use Islamic financing which are structured as a standard long-term debt.

Cenergi currently raises financing for its projects based on a single project basis. What this means is that for every single project, a single financing structure is being secured. This however, has created inefficiency in raising funds or financing. With a number of similar projects in the pipeline, Cenergi is looking at the possibility of structuring one sukuk to form asset-backed projects of a similar nature. Hence, instead of raising RM10 million to RM15 million (US\$2.5 million to 3.75 million) funds for each biogas project, it would be more efficient and practical to issue a green sukuk of between RM60 million to RM100 million (US\$15 million to 25 million). Currently, Cenergi is working closely with two international advisors to come up with a green sukuk program for Southeast Asia's renewable energy and energy efficiency.

With respect to the energy efficiency business, Cenergi currently implements a RM14 million 12-year EPC or energy performance agreement with a local university to reduce the university's cost. Cenergi provides the financing to implement energy efficiency solutions for the university to reduce its electricity consumption. The savings accrued through reduced electricity consumption will be used to repay the investor (Cenergi). Such an approach allows for the investee (the university in this case) to adopt energy efficiency technologies as well as procedures without having to fork out capex upfront to pay fixed monthly retainer fees. The investee repays the investor through its savings. Should there be no or negative savings, the investor will bear the risk fully.



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CHAPTER

06

Prospects for Islamic Green Finance and Conclusion

OVERVIEW

The participants were optimistic about the growth of Islamic green finance. This optimism is founded upon the back of a strong demand for green financial instruments. This in part, is being fueled by a broader investor-base especially in the green-debt markets globally.

The growth potential of the green sector is boundless with strong prospects to contribute significantly with greater attention to sustainability considerations and its long-term impact. There are large and untapped opportunities in this sector, and Islamic finance can allocate its resources into this segment to carve a niche market for Islamic finance that can contribute significantly towards this reinvention.

6.1 Global Prospects of Islamic Green Finance

Investors globally are all witnessing the effects of non-sustainable investments on assets and portfolios that are exacerbating the climate change effects. Many statistical figures were shared as indicative trends for the growing demand of green finance.

According to the ADB, developing Asian countries will need to invest US\$26 trillion from 2016 to 2030, or US\$1.7 trillion per year, if the region is to maintain its growth momentum, eradicate poverty, and respond to climate change. Of the total climate-adjusted investment needs from 2016 to 2030, US\$14.7 trillion will be for power and US\$8.4 trillion for transport. Investments in telecommunications will reach US\$2.3 trillion, with water and sanitation costs at US\$800 billion over the period.

Looking at the emerging trends, ESG investments have also become the preferred option for many

responsible investors especially institutional investors. A speaker from the UN SSE shared that based on the 87 stock exchanges that they monitor on their sustainability activities, 54 are doing some form of sustainability-related initiative, reflecting a positive trend. There are several initiatives related to ESG indices, training and reporting guidelines.

The prospects can be further discussed in the form of potential new region and innovation for Islamic green finance.

6.1.1 New Region Taking Shape in Green Finance

The geographical trends in green sentiment and participation has increased surprisingly into a new region that is knowingly rich with natural energy resources. To share prospects of green finance in the CIS region, the experience of Kazakhstan was shared as an example.

The whole concept of transitioning to the green economy in Kazakhstan includes changing of mindset to deliver its commitment to achieve 50% of renewable energy production in its economy by 2050. As a country with a highly energy intensive economy, the average GDP growth of the country was higher than 7% for two decades.

Some of the planned initiatives for Kazakhstan include:

- In 2013, Kazakhstan approved the strategy for transition to green economy and at the COP21 the Paris Agreement in December 2015, Kazakhstan signed and ratified this agreement. As part of its commitment, Kazakhstan hosted a green exposition, Astana EXPO 2017 World Specialized Exhibition themed, 'Future Energy'.
- In 2018, an International Green Technology Centre was set-up by the Ministry of Energy. In addition, green finance has been identified as one of the strategic pillars of the Astana International Financial Centre.
- A blueprint was prepared in partnership with the EBRD under which the country developed green financial instruments including Kazakh Emissions Trading Scheme which will be traded on the stock exchange. Development of green bonds in collaboration with EBRD and the World Bank is underway.
- In the fourth quarter of 2018, the Kazakhstan's government plans to issue a sovereign green sukuk as part of its efforts to develop Islamic finance business in the central Asian country.
- By year 2050, Kazakhstan's ambition is to achieve 50% of renewable energy production in its economy.

6.1.2 Growing Innovation

Islamic green finance has to develop innovative products to set future trends in sustainable financing. It has the necessary requirements to enhance the development of green finance though the early focus was on the 'must have' criteria of Shariah-compliance. To move forward, we have to go beyond these criteria to include positive impacts of investment on the environment. There is a need to design sukuk exclusively to manage green projects based on the whole value chain of green.

Mortgage-backed securities (MBS) acts as a new asset class that could bridge both sustainability and profit together. The Conference shared the potential for the market to replicate Fannie Mae's step in the issuance of a green bond which is backed by either green building-certified properties or properties for multifamily homes that are targeting a reduction in energy or water consumption. In 2017, CBI recognized Fannie Mae as the largest issuer of green bonds with the total issuance of US\$31 billion whereby the US\$27.6 billion were MBS. The proceeds were used to finance individual green mortgage loans on purchasing properties, which has been awarded a green building certification.

Inspired by this success, Cagamas Bhd, Malaysia's national mortgages corporation, has been working with Islamic banks and other several industry participants on the development of affordable-

green housing. For the past years, Cagamas was very much focused on the affordable housing sector, which is one of the asset classes under the SRI Sukuk Framework. Hence, the combination of affordable and green housing could spur the development of Islamic green finance sector.

Another area of opportunity for combining Islamic finance with social and environmental objectives is philanthropy which includes the institution of *sadaqah* (voluntary charity) and *waqf*. Sukuk that are based on *waqf* model may not be limited to the element of tangible and perpetuity only. The Conference discussed that in the history of Islamic civilization, past practices of *waqf* have remained its social and sustainable impacts. By combining expertise of Shariah scholars and green expert, a Shariah-compliant green standard may be considered and developed in future encompassing green elements on the underlying assets used under Shariah contracts.

With more innovative products and projects in the picture, it is only natural for the financial community to also re-act creatively to provide more sophisticated financing structures. For instance, *waqf* and zakat funds may be structured into broader financing purposes that give impacts on social and environmental dimensions.

A vibrant Islamic green finance ecosystem also requires equally facilitative regulatory framework. Innovative products and financing must be complemented by a regulatory system that promotes rather than constraints the industry as a whole. In this regard, the industry participants need to continuously develop new ideas that are in line

with contemporary changes. One way of doing this is through continuous engagements and sharing of experiences with all stakeholders to understand and gauge the contemporary environment. Industry standard setters will also need to work towards common guidelines and standards to foster convergence in practices across different countries.

6.2 Conclusion

Overall, the one and half-day Conference themed 'Harnessing Islamic Finance for a Green Future' crystallized key dynamics and trends of sustainability and prospects of green finance globally. This provides the necessary foundation for the Conference to discuss key building blocks and catalysts in shaping the future of Islamic green finance to build a greener future. Case studies were also presented and discussed to allow participants to put in perspective that results in practical experiences.

Some of the key deliberations and calls to action are encapsulated below:

- **Common Principles**

The Conference painted the concepts of Islamic and green finance side-by-side. It highlighted the commonalities that are deeply rooted in the underlying principles of Islamic finance that make clear requirement for the protection of the environment. In fact, the essence of the Shariah framework is similar to a green bond framework i.e. defining the use of proceeds and process of managing the

proceeds and how the Shariah scholars could give second party opinion as independent scholars.

- **Roles to play**

The Islamic green finance market serves itself as a new marketplace where economic, political and social agents representing different roles and capacities come together. These different agents' interests converge into a shared goal in supporting sustainable growth.

Experiences across the globe show that both private and public actors have their fair share of contributions towards developing standards and guidelines for the green bond market. Under different contexts and settings, both the public and private sector play instrumental roles in fostering the growth of Islamic green finance.

- **Shariah**

Shariah is not limited to the primary projects but it can also look into post projects and other subsidiaries or derivatives of green projects.

The industry should look from the whole value-chain perspective, including post-climate problem in the likes of carbon- credit sukuk. There was also a suggestion in the Conference for the industry to provide a combined service of second opinion and Shariah endorsement.

- **Innovation**

Islamic green finance has to deliver innovative products to set future trends in sustainable financing. Such innovation must be harnessed by having more potential green project issuers coming into the market through creating different types of products and projects.

- **Incentives**

It is important to strike the balance as one treads the thin line between the incentives that promote, and incentives that demote green financing. As long as these incentives facilitate transition from brown to green economy, they are justified.

- **Prospects**

The prospects of Islamic green finance are tremendous. Shifting trends of many institutional investors towards becoming responsible investors reflect that the demand is on an upward trend.

Leveraging the continuous demand for green investment products from a broad range of investors, there was an optimistic outlook on the gradual but steady growth of Islamic green finance. Indeed, Islamic finance can be a catalyst for the growth of green developments globally. This requires continuous collaboration with global and local stakeholders to converge in standards and reporting as well as to spur innovation, reduce barriers and cost for issuers while increasing transparency and awareness for investors.

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Appendices

- **Appendix 1: Conference Agenda**
- **Appendix 2: Speaker Profile**

Appendix 1 Conference Agenda

DAY ONE: Monday, May 14, 2018

Time	Programme
8.15 am – 9.00 am	Registration
9.15 am – 9.45 am	<p>Welcome Remarks Richard Record, Lead Economist and Acting Country Manager for Malaysia, World Bank</p> <p>Keynote Address Tan Sri Dato' Seri Ranjit Ajit Singh, Chairman, Securities Commission Malaysia</p>
9.45 am – 10.30 am	<p>SESSION 1: OVERVIEW OF ISLAMIC GREEN FINANCE</p> <p>Panellists: <ol style="list-style-type: none"> 1. Datuk Zainal Izlan Zainal Abidin, Deputy Chief Executive, Securities Commission Malaysia 2. Abayomi Alawode, Head of Islamic Finance, Finance, Competitiveness & Innovation, World Bank </p> <p>Description: A conversation session that will discuss on green finance instruments currently in use around the world (e.g. green funds, bonds and equities); the global trends of green bond markets and demand for large green infrastructure projects. It will also discuss on the links between Islamic finance and green finance as well as innovative Islamic instruments such as green sukuk.</p>
10.30 am – 10.45 am	Coffee Break
10.45 am – 12.15 pm	<p>SESSION 2: TOWARDS AN ENABLING ENVIRONMENT FOR ISLAMIC GREEN FINANCE: DEVELOPING GUIDELINES AND STANDARDS</p> <p>Moderator: Kamarudin Hashim, Executive Director, Securities Commission Malaysia</p> <p>Panellists: <ol style="list-style-type: none"> 1. Sean Kidney, Chief Executive Officer and Co-founder, Climate Bonds Initiative (CBI) 2. Mushtaq Kapasi, Chief Representative for Asia-Pacific, International Capital Market Association (ICMA) 3. Farah Imrana Hussain, Senior Financial Officer, Treasury Department, World Bank </p> <p>Description: This session focuses on the enabling environment for Islamic green finance, including the role of international institutions and regulatory authorities in establishing the required ecosystem, particularly on the guidelines/ framework for issuing green project financing. This session will also discuss how international institutions can build a platform for cooperation between players involved in green financing.</p>
12.15 pm – 12.30 pm	<p>GREEN TECHNOLOGY SHOWCASE I</p> <p>Speaker: Eko Yuliantoro, Chief Financial Officer, PERUMNAS</p> <p>Description: Indonesian climate-friendly affordable housing project.</p>
12.30 pm – 2.00 pm	Lunch

Appendix 1 Conference Agenda

Time	Programme
2.00 pm – 3.30 pm	<p>SESSION 3: DEVELOPING A SUCCESSFUL GREEN SUKUK PROGRAM: OPPORTUNITIES AND CHALLENGES</p> <p>Moderator: Farah Imrana Hussain, Senior Financial Officer, Treasury Department, World Bank</p> <p>Panellist:</p> <ol style="list-style-type: none"> 1. Mathew Nelson, Managing Partner for Asia Pacific, Global Climate and Sustainability Services, Ernst & Young Australia (EY) 2. Datuk Dr Mohd Daud Bakar, Founder and Chairman, Amanie Group 3. Rafe Haneef, Chief Executive Officer, CIMB Islamic Bank Bhd 4. Kristina Alnes, Senior Advisor, Center for International Climate and Environmental Research Oslo (CICERO) <p>Description: This session will assess the current state of the green sukuk market (sovereign and corporate), the potential for growth and the challenges that need to be addressed in order to fulfil its potential. Second opinion providers play a significant role in preserving the credibility of this asset class. The speakers will review the current practice in assessing the 'greenness' of the project and to discuss the need for creating greater awareness on convergence of Shariah and green principles.</p>
3.30 pm – 3.45 pm	<p>GREEN TECHNOLOGY SHOWCASE II</p> <p>Speaker: Khalid Bahsoon, Managing Director, CENVIRO</p> <p>Description: Cenviro stands for 'Clean Environment' is the flagship of Khazanah Nasional Bhd's investment in sustainable development. As the leader in Green Revolution, Cenviro owns and operates Malaysia's first integrated Waste Management Centre. It also involved in integrated solid waste management and also extends its operations in electronic waste management.</p>
3.45 pm – 4.00 pm	Coffee Break
4.00 pm – 5.15 pm	<p>SESSION 4: CASE STUDIES ON GREEN SUKUK</p> <p>Moderator: Dr Sherif Ayoub, CFA, CPA, Senior Advisor, Office of the Vice President – Finance and CFO, Islamic Development Bank Group</p> <p>Case Study 1:</p> <p>Speaker: Dwi Irianti Hadiningdyah, Deputy Director of Directorate Islamic Finance</p> <p>Case Study 2:</p> <p>Speaker: Tengku Dato' Ab Aziz bin Tengku Mahmud, Chief Executive Officer, PNB Merdeka Ventures</p> <p>Case Study 3:</p> <p>Speaker: Lee Choo Boo, Executive Director, Quantum Solar Park Malaysia</p> <p>Description: This session will present several case studies on how sukuk has been used to support certified green projects. It will highlight key aspects, facilitating factors, challenges faced and solutions provided and the experiences in using sukuk.</p>

END OF DAY 1

Appendix 1 Conference Agenda

DAY TWO: Tuesday, May 15, 2018

Time	Programme
8.15 am – 9.00 am	Registration
9.15 am – 10.15 am	<p>SESSION 5: ACCELERATING GROWTH IN THE GREEN SECTOR: POLICY AND INCENTIVES FOR GREEN PROJECTS</p> <p>Moderator: Eugene Wong, Managing Director, Securities Commission Malaysia</p> <p>Panelist:</p> <ol style="list-style-type: none"> 1. Dato’ Sri Ir Dr Zaini Ujang, Secretary-General, The Energy, Green Technology and Water Ministry, Malaysia (KeTTHA) 2. Nezha Hayat, President, Moroccan Capital Market Authority 3. Javier Manzanares, Deputy Executive Director, Green Climate Fund 4. Professor Sayed Azam–Ali, Chief Executive Officer, Crops For the Future (CFF) <p>Description: This session will focus on initiatives to support green projects at a national level. Speakers across the globe will share approaches and experiences in the design and use of different policies and incentives.</p>
10.15 am – 10.30 am	<p>GREEN TECHNOLOGY SHOWCASE III</p> <p>Speaker: Ernest Navaratnam, Group Chief Executive Officer, Cenergi SEA Sdn Bhd</p> <p>Description: Cenergi SEA develops and invests in clean energy projects, with particular focus on biogas, biomass, solar PV, mini hydro and energy efficiency projects in Malaysia and Southeast Asia. It is one of the largest grid-connected palm oil mill effluent biogas players in the country.</p>
10.30 am - 10.45 am	Coffee Break
10.45 am – 11.45 am	<p>SESSION 6: ENGAGING THE PRIVATE SECTOR: ROLE OF INSTITUTIONAL INVESTORS IN ISLAMIC GREEN FINANCE</p> <p>Moderator: Martijn Gert Jan Regelink, Senior Financial Sector Specialist, Climate & Risk Management, Finance, Competitiveness and Innovation, World Bank</p> <p>Speaker:</p> <ol style="list-style-type: none"> 1. Darin Rovere, Founder and Chief Executive Officer, Sustainability Excellence 2. Dato’ Wan Kamaruzaman, Chief Executive Officer, Kumpulan Wang Persaraan (KWAP) Retirement Fund 3. Alex Ng, Chief Investment Officer, APAC, BNP Paribas Asset Management <p>Description: A panel comprising representatives of pension funds and sovereign wealth funds will discuss how these entities can support the growth and development of green finance.</p>

Appendix 1 Conference Agenda

Time	Programme
11.45 am – 1.05 pm	<p>SESSION 7: PROSPECTS FOR ISLAMIC GREEN FINANCE</p> <p>A. Presentation by INCEIF on Overview of Islamic Green Financial Assets</p> <p>Speaker: Associate Prof Dr Mohamed Eskandar Shah Mohd Rasid, Dean of School of Graduate Studies, International Centre for Education in Islamic Finance (INCEIF)</p> <p>B. Panel Discussion</p> <p>Moderator: Abayomi Alawode, Head of Islamic Finance, Finance, Competitiveness and Innovation, The World Bank Group</p> <p>Panelist: <ol style="list-style-type: none"> 1. New Region on Islamic Green Finance: Alibek Nurbekov, Head of Islamic Finance, Astana International Financial Centre (AIFC) 2. Green Sukuk: Chris Wai Kit Lee, Chief Executive Officer, RAM Consultancy 3. Green Asset Back Sukuk: Datuk Chung Chee Leong, President/ Chief Executive Officer, Cagamas Bhd 4. Sustainability Equity: Tiffany Grabski, Deputy Coordinator, Sustainable Stock Exchanges initiative, UNCTAD </p> <p>Description: This session will review the development and prospects for Islamic green finance. Experts will share their perspectives on existing and potential products and platforms that could apply Islamic green finance, creating new opportunities to this asset class.</p>
1.05 pm – 1.15 pm	<p>Closing Remarks</p> <p>Richard Record, Lead Economist and Acting Country Manager for Malaysia, World Bank</p>
END OF DAY 2	

Appendix 2 **SPEAKER PROFILE**



TAN SRI DATO' SERI RANJIT AJIT SINGH

Chairman
Securities Commission Malaysia

Tan Sri Dato' Seri Ranjit Ajit Singh is the Executive Chairman of the SC. He was previously Managing Director of the SC and has extensive experience in the field of finance and securities market regulation and has spearheaded many key initiatives in the development and reform of Malaysia's capital market.

Tan Sri Ranjit was appointed the Vice-Chairman of the governing Board of the International Organization of Securities Commissions (IOSCO), the global body of capital market regulators and was elected as the Chairman of IOSCO's Growth and Emerging Markets Committee (GEM), the largest Committee within IOSCO, representing 107 countries. Tan Sri Ranjit is also the Chairman of the ASEAN Capital Markets Forum (ACMF), a body tasked to spearhead market integration efforts within the region and comprises capital market authorities from ASEAN.

Tan Sri Ranjit chairs the Securities Industry Development Corporation (SIDC), the Malaysian Venture Capital and Private Equity Development Council (MVCDC) and the Capital Market Development Fund (CMDf). He is also the Vice-Chairman of the Asian Institute of Finance and a member of the Board of the Labuan Financial Services Authority and the Financial Reporting Foundation as well as a board member of the Malaysian Institute of Integrity (IIM).

Tan Sri Ranjit is trained as a financial economist and accountant. He holds a Bachelor of Economics (Honours) degree and a Master of Economics degree in Finance from Monash University, Melbourne. He was also conferred the degree of Doctor of Laws honoris causa by Monash University Melbourne. He is a fellow of CPA Australia and has worked in academia, consulting and accounting in Australia and Malaysia.

Note: Tan Sri Dato' Seri Ranjit Ajit Singh retired as Chairman of the Securities Commission Malaysia on 31 October 2018.

Appendix 2 **SPEAKER PROFILE****RICHARD RECORD**

Lead Economist and Acting Country Manager for Malaysia
World Bank

Richard Record is the World Bank's Lead Economist for Malaysia. Based in Kuala Lumpur, he manages the World Bank's engagement on macroeconomics, trade and investment policy issues in Malaysia. This includes publication of the flagship Malaysia Economic Monitor, as well as leading analytical and advisory work on issues such as Malaysia's digital economy and the transition to high-income country status. Richard joined the World Bank in 2008 and has worked across a number of countries in the East Asia and Africa regions, managing programs on economic policy, trade and private sector development. A British national, he holds Bachelors, Masters and Doctoral degrees in economics from the London School of Economics, the School of Oriental and African Studies, and the University of Manchester respectively.

Note: Richard Record is currently serving his role as World Bank's Lead Economist for Malaysia.

Appendix 2 **SPEAKER PROFILE**



DATUK ZAINAL IZLAN ZAINAL ABIDIN

Deputy Chief Executive
Securities Commission Malaysia

Datuk Zainal Izlan was appointed Deputy Chief Executive of the SC on 5 April 2018.

He joined the SC in January 2011 as Executive Director, Islamic Capital Market and was appointed Managing Director, Development and Islamic Markets in November 2016. He is also Chairman of Capital Markets Malaysia, an entity established by the SC to promote the Malaysian capital market.

Datuk Zainal Izlan holds a Bachelor of Science in Economics (dual concentration in Accounting and Finance) from The Wharton School, University of Pennsylvania, USA, and is a Chartered Financial Analyst (CFA) charterholder. He has over 25 years' experience in the financial services industry. He began his career with Citibank before joining MIDF Amanah Asset Management. Just before joining the SC, Datuk Zainal Izlan was the Chief Executive Officer of i-VCAP Management.

Appendix 2 **SPEAKER PROFILE****ABAYOMI A ALAWODE**

Head, Islamic Finance
World Bank

Abayomi Alawode joined the World Bank in 1997 as a Young Professional and is currently Head of Islamic Finance in the Bank's Finance, Competitiveness and Innovation Global Practice. Previously, he worked in various capacities including as Practice Manager (Financial Systems Practice), Lead Financial Sector Specialist (East Asia and Pacific Region) and as Program Leader/Senior Financial Specialist (World Bank Institute). He also served as Adviser, Financial Stability at the Central Bank of Bahrain from 2006 to 2010. Before joining the World Bank, Abayomi was a Lecturer in Economics at the Obafemi Awolowo University, Ile-Ife, Nigeria (1990-1994) and an Instructor in Development Economics at the University of Cambridge. He holds a B.Sc and M.Sc (both in Economics) from the Obafemi Awolowo University, Ile-Ife, Nigeria and an M.Phil in Development Studies from the University of Cambridge, England. He is the author of several academic papers on monetary and financial sector issues.

Appendix 2 **SPEAKER PROFILE**



EUGENE WONG WENG SOON

Managing Director, Corporate Finance and Investments
Securities Commission Malaysia

Eugene Wong is the Managing Director of the SC and is responsible for matters relating to Corporate Finance and Investments which covers IPOs, Private Debt Issuances, Collective Investment Schemes and Take-overs. He also oversees the SC's ASEAN related initiatives.

Prior to joining the SC in 2009, Eugene has held positions in a merchant bank, a stockbroking company and in the audit and corporate finance divisions of international accounting firms.

He is an adviser to the Malaysian Accounting Standards Board and a Board Member of the Audit Oversight Board. Eugene was the immediate past Chairman of the Ethics Standards Board of the Malaysian Institute of Accountants.

Eugene is a Fellow of the Institute of Chartered Accountants Australia and New Zealand, Fellow of CPA Australia and a member of the Malaysian Institute of Accountants. He has an Advance Diploma in Corporate Finance from The Institute of Chartered Accountants in England & Wales (ICAEW) and holds a B. Comm. from the University of Melbourne.

Appendix 2 **SPEAKER PROFILE****KAMARUDIN HASHIM**

Executive Director, Market and Corporate Supervision
Securities Commission Malaysia

Market & Corporate Supervision (MCS) is responsible for the supervision of market institutions, and surveillance of corporate and secondary market activities. MCS also drives risk surveillance and management strategies for the SC.

Kamarudin is also the overall risk coordinator for the SC. He has been with the SC since 1993 and has experience in various areas including derivatives, bonds, fund management, Islamic capital markets and supervision. He had previously also served as Secretary to the Commission and was seconded to Citibank Bhd where he was involved in bonds and sukuk transactions while supporting regional Islamic finance business of the bank. Prior to joining SC, he was with Bank Negara Malaysia after obtaining a Bachelor of Arts degree majoring in Law from University of Kent, United Kingdom.

Appendix 2 **SPEAKER PROFILE**



SEAN KIDNEY

Chief Executive Officer and Co-founder
Climate Bond Initiative (CBI)

Sean Kidney is the CEO of the Climate Bonds Initiative, an international NGO working to mobilize debt capital markets for climate solutions. Projects include:

- a green bond definitions and certification scheme with \$34 trillion of assets represented on its Board and some 200 organizations involved in its development and governance;
- working with the Chinese central bank on how to grow green bonds in China;
- an international Green Infrastructure Investment Coalition;
- green bond market development programs in Brazil, Mexico, Colombia and East Africa;
- and a green finance aggregation platform with UNDP.

Sean is a member of the European Commission's High-Level Expert Group on Sustainable Finance and the UK Government's Green Finance Task Force, co-Chair of the India Green Bonds Council and a member of the Mexico Climate Finance Consultative Board. He is the Climate Bonds representative on the China Green Finance Committee and has published a number of papers on how to grow green bonds in China.

He has also been a consultant on green bonds to the United Nations Secretary General, a member of the People's of Bank of China Green Finance Task Force and a member of the Commonwealth Secretariat's Expert Committee on Climate Finance. In 2016, he was named Environmental Finance magazine's "Personality of the Year" and in 2017 GlobalCapital's "Most Influential Champion" of the sustainable finance market. He was previously an award-winning marketing advisor to a number of the largest Australian pension funds and a social marketer and publisher.

Appendix 2 **SPEAKER PROFILE****MUSHTAQ KAPASI**

Chief Representative, Asia Pacific
International Capital Market Association (ICMA)

Mushtaq Kapasi is ICMA's Chief Representative for the Asia-Pacific region. He has been based in Hong Kong since 2002, engaged in senior strategy, capital market and legal roles covering the region at international banks active in Asia. He has worked as a lawyer in debt capital markets and derivatives, a structurer in equities and fixed income, a manager of complex trades with regulatory and accounting considerations, and an adviser to top executives on emerging market strategy. He has also served as a consultant on financial structures of renewable energy projects in frontier markets. He is a member of the New York State Bar, and studied mathematics at the University of Texas and law at Yale University.

Appendix 2 SPEAKER PROFILE



FARAH IMRANA HUSSAIN

Senior Financial Officer, Financial Advisory and Banking Department
World Bank Treasury, World Bank

Farah Imrana Hussain is a Senior Financial Officer at the World Bank Treasury based in Washington DC. She is part of a team of financial specialists that design and implement financial solutions to help clients: (1) access financing for development by mobilizing World Bank Group resources and private sector financing; (2) mitigate the impact of financial, natural disaster and commodity risks by facilitating access to market-based risk management tools; and (3) strengthen capacity to implement efficient risk management strategies by providing advisory services.

Ms Hussain specializes in providing technical assistance to countries to develop local green bond markets, including developing policy frameworks, identifying green project pipelines, developing impact reports, and supporting capacity building among key stakeholders as part of the World Bank Group's efforts to promote sustainable investment solutions. She and a team of Finance and Capital Markets specialists led the World Bank's engagements in Malaysia, Fiji and Nigeria that resulted in the issuance of the first green sukuk in the world; first sovereign green bond by an emerging market; first African sovereign green bond, etc. The World Bank has been a pioneer in developing the green bond market, issuing more than 130 Green Bonds in 18 currencies since 2008.

Before joining the World Bank Treasury in 2010, Ms Hussain worked for the Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group that provides guarantees to attract investors and private insurers into difficult operating environments such as the world's poorest countries and fragile and conflict-affected environments. Prior to joining the World Bank Group, Ms Hussain worked for BNP Paribas and ING Barings, investment banks in London.

Appendix 2 **SPEAKER PROFILE****EKO YULIANTORO**

Chief Financial Officer
PERUMNAS

Prior to being appointed as the Finance Director of Pembangunan Perumahan Nasional (Perusahaan Umum) (Perumnas), he was the Chief Operating Officer of PT Bahana Pembinaan Usaha Indonesia (Persero) for almost 5 years. PT. Bahana Pembinaan Usaha Indonesia (Persero) is an Indonesian State-Owned Company engaged in Financial Industry and Investment covering: Investment Management; Securities Company; Venture Capital, and Property.

He was previously the President Commissioner of PT Bahana Securities in 2013, Eko Yuliantoro was the President Director of Bahana Securities, one of the largest investment bank firm in Indonesia. Currently, he is also the Chief Financial Officer of PT Bahana Pembinaan Usaha Indonesia (Persero), the holding company of Bahana Securities. Having joined Bahana in 2001, he has led managed many transactions, including various M&As and financial advisory transactions for the Indonesian government, state owned enterprise and private companies. Prior to joining Bahana, Eko held several senior positions at PT Bank Niaga Tbk (now CIMB Niaga) since 1990. Eko Yuliantoro graduated from the Bandung Institute of Technology in Indonesia with a degree in Civil Engineering.

Appendix 2 **SPEAKER PROFILE**



MATHEW NELSON

Managing Partner for Asia Pacific
Global Climate Change and Sustainability Services, Ernst & Young Australia

Mathew is Global leader for EY's Climate Change and Sustainability Services team, responsible for our global network of over 1,000 sustainability professionals. The network has teams in over 40 countries and 75 offices delivering services related to climate change and green finance, sustainability, nonfinancial reporting, outcomes measurement and environment, health and safety.

In this role he advises businesses and government on how to build long-term value by responding to broader societal, environmental and economic challenges and assisting business to understand and evaluate the broader value impacts associated with their organisation, operations, programs and projects.

He is also Chair of EY's Climate Change and Sustainability Services Global Centre of Excellence, designed to deliver on the team's strategic agenda – including thought leadership, alliances and relationships – which aligns to EY's purpose of "building a better working world".

Mathew has also been a leading mind of climate change and sustainability policy in the Asia-Pacific region, working closely with government and the private sector during the development and implementation of climate change and sustainability related policy and programs – most recently joining business and government leaders in the Bali Process round table discussions on eradicating modern slavery in the Indo-Pacific region.

Appendix 2 **SPEAKER PROFILE**



DATUK DR MOHD DAUD BAKAR

Founder and Chairman, Amanie Group
Chairman, Shariah Advisory Council of the Securities Commission Malaysia

Datuk Dr Mohd Daud Bakar is the Founder and Executive Chairman of Amanie Group. One of its flagship companies namely Amanie Advisors, is operating in few cities globally. He currently serves as the Chairman of the Shariah Advisory Council at the Central Bank of Malaysia, the Securities Commission of Malaysia, the Labuan Financial Services Authority, and the First Abu Dhabi Bank. He is also a Shariah board member of various global financial institutions, including the National Bank of Oman (Oman), Amundi Asset Management (France), Bank of London and Middle East (London), BNP Paribas Najma (Bahrain), Guidance Financial (USA), Salama Insurance (Dubai), Natixis Bank (Dubai), Oasis Asset Management (South Africa), Noor Islamic Bank (Dubai), Bank al-Khayr (Bahrain), Morgan Stanley (Dubai), Franklin Templeton (Kuala Lumpur and Luxembourg), Sedco Capital (Saudi and Luxembourg), Cagamas Bhd (Malaysia) and Dow Jones Islamic Market Index (New York) amongst many others.

In the corporate world, he sits as a Board Director at Sime Darby Bhd and a member of the PNB Investment Committee. He is also the third Chair Professor in Islamic Banking and Finance of Yayasan Tun Ismail Mohamed Ali Berdaftar (YTI) PNB at Faculty of Economics and Muamalat, Universiti Sains Islam Malaysia (USIM).

In 2016, he received the "Award of Excellence for Outstanding Contribution for Shariah Leadership & Advisory" at London Sukuk Summit Awards and "Shariah Adviser Award" at The Asset Triple A Islamic Finance Award. In 2014, he received the "Most Outstanding Individual" award by His Majesty, the King of Malaysia, in conjunction with the national-level Prophet Muhammad's birthday. Under his leadership, Amanie Advisors received the "Islamic Economy Knowledge Infrastructure Award" at the Global Islamic Economy Summit, Dubai 2015, by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, Oct 2015.

Prior to this, he was the Deputy Vice-Chancellor at the International Islamic University Malaysia. He received his first degree in Shariah from University of Kuwait in 1988 and obtained his PhD from University of St. Andrews, United Kingdom in 1993. In 2002, he completed his external Bachelor of Jurisprudence at University of Malaya.

His first book entitled "Shariah Minds in Islamic Finance: An Inside Story of A Shariah Scholar" has won the "Islamic Finance Book of the Year 2016" by the Global Islamic Finance Award (GIFA) 2016. His new released book on sukuk entitled "An Insightful Journey to Emirates Airline Sukuk: Pushing The Boundaries of Islamic Finance" has also won the "Best Islamic Finance Case 2017" by the GIFA 2017 in Kazakhstan.

Appendix 2 **SPEAKER PROFILE**



RAFE HANEEF

Chief Executive Officer
CIMB Islamic Bank Bhd

Rafe became the Chief Executive Officer of CIMB Islamic Bank Bhd on 4th January 2016 and is in charge of the CIMB Group's Islamic banking and finance franchise. CIMB Islamic operates as a parallel franchise to the Group's conventional operations and covers Islamic wholesale banking, Islamic consumer banking, Islamic commercial banking and Islamic asset management and investment.

Rafe has 20 years of experience covering a range of businesses and functional roles gained from three global banks, an international asset management company and a legal firm, at various financial centers including London, Dubai and Kuala Lumpur.

He read Law at the International Islamic University Malaysia and also holds an LL.M degree from the Harvard Law School. He was admitted to the Malaysian Bar in 1995 and qualified for the New York State Bar in 1997.

Rafe first joined HSBC Investment Bank plc, London in 1999 and thereafter HSBC Financial Services Middle East, Dubai where he set up the global sukuk business in 2001. Subsequently, he became the Global Head of Islamic Finance business at ABN AMRO Dubai in 2004 covering both consumer and corporate businesses. In 2006, he moved back to Malaysia with Citigroup Asia as the Regional Head for Islamic banking, Asia Pacific. He later joined HSBC Amanah in 2010 as the CEO, Malaysia and Managing Director of Global Markets, ASP.

Appendix 2 **SPEAKER PROFILE****KRISTINA ALNES**

Senior Advisor
Center for International Climate Research Oslo (CICERO)

Kristina Alnes is a Senior Advisor in Climate Finance at CICERO, a non-profit institute for interdisciplinary climate research. She is a part of the team conducting environmental ratings, Second Opinions, of green bond frameworks. CICERO is the leading global provider of Second Opinions on green bonds, having provided approximately 60 Second Opinions. CICERO reviews include several unique green bond market developments like the first green bond (World Bank), the first municipal green bond (Gothenburg), the first corporate green bond (Vasakronan) and the first green sukuk (Tadau Energy). Beyond green bonds, CICERO Climate Finance also works directly with institutional investors to improve information on climate risk.

Kristina's background is in management consulting, environmental project management and academic research. She has worked with financial institutions and Fortune 500 clients in the US, Europe and the Middle East to analyse environmental and social data, engage stakeholders and set strategic direction. Kristina has a Master of Science in Sustainability Management from Columbia University and a bachelor of Finance from McGill University.

Appendix 2 SPEAKER PROFILE



KHALID BAHSOON

Managing Director
Cenviro Sdn Bhd

Khalid Bahsoon is the Managing Director of Cenviro Sdn Bhd and a Director of Cenviro Sdn Bhd's Group of Companies since 2013. He also sits on the Board of E-Idaman Sdn Bhd Group and Shan Poornam Sdn Bhd Group.

Khalid Bahsoon is responsible for Cenviro Group of Companies' restructuring and rebranding, and managing operations of both scheduled (hazardous) and non-scheduled (non-hazardous) waste industries to becoming a sustainably growing Company.

In 2010, Khalid Bahsoon was appointed the CEO of Mardec Bhd, an integrated rubber company. Prior to this appointment, he was the CEO of Recycle Energy Sdn Bhd, operating a municipal waste to energy plant in Malaysia.

Khalid Bahsoon previously served as the Group CEO for Core Competencies Sdn Bhd, a corporation that is involved in waste-to-energy projects in Malaysia. He was responsible for the restructuring and strategise for the growth of the Group.

Khalid Bahsoon has over 20 years of experience including but not limited to corporate restructuring, crisis management and business stabilisation in many parts of the world including the United Kingdom, Sierra Leone, Angola and Malaysia.

He holds an LLB (Honours) degree in Law from University of London.

Appendix 2 **SPEAKER PROFILE****DR SHERIF AYOUB**

Senior Advisor, Office of the Vice President – Finance and CFO
Islamic Development Bank Group

Dr Sherif Ayoub has been with the Islamic Development Bank Group since August, 2006. At the IDB Group, he has worked in the Africa Department, the Islamic Corporation for the Development of the Private Sector, the Islamic Financial Services Department, and the Office of the Vice President - Finance. During his tenure at the IDB, he was seconded to the Islamic Financial Services Board where he served as the Assistant Secretary General from 2014 to 2016. Overall, Dr Ayoub has over 19 years of experience in the finance, management consulting, and economic development domains.

Dr Ayoub acquired his PhD in Finance from the University of Edinburgh having been previously educated at Columbia University (Master's) and Baldwin Wallace University (Bachelor's). He has also served as a Visiting Fellow at Harvard University and a Visiting Scholar at IFSB and INCEIF. Dr Ayoub is also a CFA Charterholder and a Certified Public Accountant (CPA).

Appendix 2 **SPEAKER PROFILE**



DWI IRIANTI HADININGDYAH

Deputy Director of Islamic Financing, Directorate General of Budget Financing and Risk Management, Ministry of Finance Republic Indonesia

Dwi Irianti served as Deputy Director of Islamic Financing for Sukuk Market Development, Ministry of Finance. Previously, she held various positions in the Ministry. She got her Master Degree in Economics from University of Delaware, USA.

Dwi Irianti is a Director of Perusahaan Penerbit Indonesia III, Issuer of Republic of Indonesia Global Sukuk, including Green Global Sukuk.

Appendix 2 **SPEAKER PROFILE**



TENGGU DATO' AB AZIZ TENGGU MAHMUD

Chief Executive Officer
PNB Merdeka Ventures Sdn Bhd

Tengku Dato' Ab Aziz Tengku Mahmud was appointed as Chief Executive Officer, PNB Merdeka Ventures Sdn. Bhd, a wholly-owned subsidiary of Permodalan Nasional Bhd, on April 1, 2010. He is responsible for the development of Warisan Merdeka project comprising 100-storey tower, retail complex, hotels and condominiums.

Prior to this appointment, he was the Head, Property Development of Sime Darby Property Bhd from August 2008 to March 2010. He was responsible for the Property Development Operations in addition to Hospitality, Leisure and Asset Management of the Property Division. He also served Kumpulan Guthrie Bhd as Head, Property and the Chief Executive Officer, Guthrie Property Development Holding Bhd in 2005 to 2007.

Tengku Dato' Ab Aziz graduated with a Master in Business Administration from Cranfield Institute of Technology, United Kingdom in 1991 and Bachelor of Science (Hons) in Civil Engineering, Loughborough University of Technology, United Kingdom in 1980. He also obtained a Diploma in Management with Merit from Malaysian Institute of Management Kuala Lumpur in 1984.

Appendix 2 **SPEAKER PROFILE**



LEE CHOO BOO

Executive Director
Quantum Solar Park Malaysia Sdn Bhd

Lee Choo Boo has more than 30 years of experience in advanced semiconductor manufacturing, LED, Intelligent Transport System (ITS) and Renewable Energy industries.

He started his career as an equipment engineer in Hitachi Semiconductor Malaysia in 1985 before moving on to Hewlett-Packard Malaysia (HPM) in 1987 as a mechanical design engineer for electrophotographic products. He subsequently held numerous engineering and management positions in Research & Development, Product Development and Manufacturing for High Brightness LEDs. His research work in the area of Electrophotographic Printheads earned him the distinction of becoming the first Malaysian engineer in HPM to obtain a United States patent. He left HPM after 10 years to join Read-Rite Malaysia, a US-based disk drive company, as Director of Operations responsible for the entire engineering and manufacturing functions with a workforce of over 4,500 people.

He founded ITRAMAS Corporation Sdn Bhd in 1999, going into the areas of Solid State (LED) product manufacturing, Intelligent Transport Systems, Security and Surveillance Solutions and Large Scale Solar (LSS) PV Power Plant development and construction. He sits on the board of Quantum Solar Park Malaysia Sdn Bhd, the largest Solar Power Plant (SPP) developer in the country.

He was the first Deputy President of ITS society of Malaysia and is currently an Industry Advisory Panel Member of Monash University's School of Electrical & Computer System Engineering.

Appendix 2 **SPEAKER PROFILE**



DATO' SERI IR DR ZAINI UJANG

Secretary-General
The Energy, Green Technology and Water Ministry Malaysia (KeTTHA)

Zaini Ujang is the Secretary General, Ministry of Energy, Green Technology and Water, Malaysia since 5 August 2016. He was the Secretary General, Ministry of Higher Education, Malaysia since July 2015 – August 2016 and the Secretary General II, Ministry of Education Malaysia (June 2013 – July 2015), the fifth Vice-Chancellor of University Technology Malaysia (October 2008 - May 2013) and the first recipient of the prestigious Merdeka Award for the category of Outstanding Scholastics Achievement in 2009.

He was Chairman of the task force for preparing Malaysia Higher Education Blueprint (2015 – 2025) and spearheading the governance and financial sustainability shifts. He also has initiated UTM transformation program to be research technical university, from 10% to 50% enrolment of graduate students within five years (2008 – 2013); and initiated research collaborations with MIT, Imperial College London, Cambridge and Oxford.

His academic contributions are in the field of environmental management and technology, particularly water and wastewater treatment sustainable resource strategies and industrial ecology. Apart from his involvement in his academics, he also served on various public agencies such as Chairman of Environmental Quality Council, Malaysia (since 2009), and member of National Water Services Commission (2007 – 2014).

He has written more than 250 scientific papers published in leading academic journals and proceedings, and 33 books on environmental engineering, water sustainability, higher education and learning innovation, and published more than 1000 articles in mainstream media since 1988.

He is also active in voluntary bodies: Vice-President of International Water Association (2004 - 2006), Editor of Water Science and Technology since 2000 and President Harvard Business School Alumni Club of Malaysia (2016).

He is a Fellow at the Swedish Royal Physiographic Society in Lund (Sweden), Fellow at the Science Academy (Malaysia) Fellow at the Institute of Chemical Engineering (UK) and seeing Fellow of Institute Water Association.

He is also registered as a Professional Engineer (Malaysia), Chartered Engineer (UK), Chartered Scientist (UK), Chartered Water and Environmental Manager (UK). He was also a Visiting Professor at MIT (the United States), Imperial College London (UK), and Tsukuba University Japan.

Appendix 2 SPEAKER PROFILE



NEZHA HAYAT

President
Moroccan Capital Market Authority

Nezha Hayat is the President of – Morocco’s Capital Market Authority, following her appointment in February 2016 by His Majesty the King, Mohammed VI.

An ESSEC Business School Paris graduate, she until her nomination worked at Société Générale Morocco group where she became in 2007, the first woman on a management board of a bank in the country.

She started her career in Spain at the international division of Banco Atlantico as responsible for international risks and restructured debt portfolio (1985-1988). From 1988 to 1990, she was in charge of the department of corporate finance in two brokerage houses in Madrid (Inverfinanzas and then Bravo y Garayalde). In 1990, she moved to the private banking activities, first as branch manager of Banco Inversion in Marbella and in 1993 as deputy director of Banque Nationale de Paris offshore unit in Tangier.

She then joined Société Générale Marocaine de Banques on October 1995, and launched their activities of brokerage and asset management, following the Reform of the capital markets in Morocco and the privatization of the Casablanca Stock Exchange.

In 1999, she was elected President of the Association of stockbrokers in Morocco for two terms during which she obtained tax incentives for companies entering the stock market (measures still in force since then). She was nominated global leader for tomorrow by the World Economic Forum in Davos, 2000.

Nezha received an award for her “outstanding contribution to financial and professional services”, by the G8 in June 2013 in London.

As a founding member of AFEM, she created and chaired le “Club des Femmes Administrateurs au Maroc” in 2012, to promote women in corporate boards. She has also been a member of the CGEM Board of Directors and the British Chamber of Commerce for Morocco since 2012 until her appointment as Chairperson and CEO of the AMMC.

Elected in October 2017 Vice-Chair of the Africa and Middle East Committee (AMERC) within the International Organization of Financial Market Regulators (IOSCO), Nezha hayat also joined IOSCO Board of Directors where Morocco sits for the first time.

She was decorated by His Majesty King Mohammed VI, Officer of Wissam Al Arch (Order of the Throne).

Appendix 2 **SPEAKER PROFILE****JAVIER MANZANARES**

Deputy Executive Director
Green Climate Fund

Javier Manzanares is the Deputy Executive Director at GCF. He previously served as GCF's Executive Director ad interim during the second half of 2016. Prior to that, he was Director and Representative of UNOPS in the MERCOSUR region, based in Argentina. He was formerly Division Manager of Investment and Development Banking at the Central American Bank for Economic Integration. Javier also worked as the Executive VP for two privately held banks of Grupo Fierro. His career in banking and finance began with Banco Santander/BSCH in the United States, Hong Kong and Japan. Javier holds a dual MBA from Northwestern University / Kellogg (USA), an EMBA from Hong Kong University of Sciences & Technology (China), and is currently a Ph.D. candidate at INHA University in South Korea.

Appendix 2 SPEAKER PROFILE



PROFESSOR SAYED AZAM-ALI

Chief Executive Officer
Crops For the Future (CFF) Research Centre

Prof Azam-Ali is the Chief Executive Officer of Crops For the Future (CFF), the world's first and only centre dedicated to research on underutilised crops for food and non-food uses. Prior to CFF, Prof Azam-Ali was the Vice-Provost (Research and Internationalisation) at the University of Nottingham Malaysia Campus. He coordinated the successful bid by the University of Nottingham to co-host the global CFF organisation against stiff international competition.

In 2017, Prof Azam-Ali was elected as Chair of the Association of International Research and Development Centers for Agriculture (AIRCA), a nine-member alliance focused on increasing global food security by supporting smallholder agriculture within healthy sustainable and climate-smart landscapes. He is also the Chair in Global Food Security at the University of Nottingham. He was recently appointed as the Food Security Subject Matter Expert for the Government of Malaysia's new 30-year transformation plan 'TN50'.

Prof Azam-Ali holds a PhD in Environmental Physics from the University of Nottingham. He has over 100 publications in peer-reviewed journals, symposium proceedings, book chapters and one textbook.

Appendix 2 **SPEAKER PROFILE****ERNEST NAVARATNAM**

Group Chief Executive Officer
Cenergi SEA Sdn Bhd

Ernest Navaratnam was appointed Group Chief Executive Officer of Cenergi SEA Sdn Bhd in June 2017.

Prior to this appointment, he was appointed Deputy Executive Director of Cenergi SEA Sdn Bhd in November 2016.

Ernest Navaratnam is the Director of AEGV Sdn Bhd who has vast experience in the power industry. Among his experience was as Senior Vice President of Malakoff Corporation Bhd. During his tenure in Malakoff, he successfully led all Malakoff's international investment opportunities like Shuaibah 3 IWPP in Saudi Arabia, Dhofar Power in Oman, Tlemcen Water Desalination Project in Algeria, Central Electricity Generation in Jordan.

Prior to joining Malakoff, he was the Business Development Manager of International Power plc from 1999 to 2003. During that time, he was seconded to IPR's HQ in London for a period of 2 years.

Ernest Navaratnam holds BSc. In Electrical Engineering from Queen's University at Kingston, Canada.

Appendix 2 **SPEAKER PROFILE**



MARTIJN GERT JAN REGELINK

Senior Financial Sector Specialist, Climate and Risk Management
Finance, Competitiveness and Innovation, World Bank

Martijn Regelink is a senior financial sector specialist in the World Bank Group's Finance, Competitiveness, and Innovation Global Practice, leading an emerging agenda on greening financial systems. Martijn has joined recently from the De Nederlandsche Bank, Amsterdam where he has been advising the board of the Dutch central bank on future risks in the financial sector which could jeopardize the stability of financial intuitions. He was DNB's program lead on the topic of climate risks for the financial sector. In this role he led a team of experts who aimed to identify, assess and mitigate climate related financial risks stemming from physical (storms, flooding etc.) and transition (e.g. climate policy) sources. Moreover, he was involved in DNB's international outreach on this topic, representing the Netherlands in the G20 Green Finance Study Group and advising on the EU's High Level Expert Group on Sustainable Finance. Before joining DNB, Martijn was a strategy advisor at Deloitte.

Appendix 2 **SPEAKER PROFILE****DARIN ROVERE**

Founder and Chief Executive Officer
Sustainability Excellence

Darin founded Sustainability Excellence in 2007 to support leading companies in the Arab region in adopting sustainability. Since then, Darin and Sustainability Excellence have worked with nearly half of all regional companies issuing sustainability reports.

Darin is a pragmatic advocate of the business case - and investor case - for sustainability. He recently established Sustainability Excellence's independent ratings arm ESG Invest, which maintains the world's most comprehensive coverage for investors of environmental, social and governance performance in the Arab world, including ESG ratings reports for all listed companies in the GCC, as well as other regional markets.

Appendix 2 **SPEAKER PROFILE**



DATO' WAN KAMARUZAMAN WAN AHMAD

Chief Executive Officer
Kumpulan Wang Persaraan (Diperbadankan) [KWAP]

Dato' Wan Kamaruzaman Wan Ahmad is currently the Chief Executive Officer of Kumpulan Wang Persaraan (Diperbadankan) [KWAP] since 2nd May 2013. He is also the Board Member of Valuecap Sdn. Bhd. and Malakoff Corporation Bhd. as well as the Director of Prima Ekuiti (UK) Limited, a subsidiary of KWAP based in London, United Kingdom.

Prior to joining KWAP, he served as the General Manager, Treasury Department of the Employees Provident Fund (EPF) since October 2007. He began his professional career with Malayan Banking Bhd. in 1981, mostly in Treasury Department with two overseas postings in Hamburg, Germany as the Chief Dealer, and in London as the Treasury Manager. After leaving Maybank in 1994, he served as the CEO and Director in several companies within the Affin Group until 2005. He then briefly served Kemuncak Facilities Management Sdn. Bhd. and Izoma (M) Sdn. Bhd., both as Executive Director of Finance until 2007.

Dato' Wan Kamaruzaman is currently the Chairman of the Institutional Investors Council Malaysia (IIC) and a Board member of the Minority Shareholder Watchdog Group (MSWG), and was recently appointed as the Board member for Bond and Sukuk Information Platform Sdn. Bhd. He is also a member of the Financial Stock Exchange – Environmental, Social, and Governance (ESG) Advisory Committee in London, as well as the Institute of Integrity Malaysia. In addition, he is one of the corporate members of the International Corporate Governance Network (ICGN) and the Asian Corporate Governance Association (ACGA).

Dato' Wan Kamaruzaman holds a Bachelor of Economics majoring in Analytical Economic (Hons) from the University of Malaya.

Note: Dato' Wan Kamaruzaman resigned from KWAP on 31 October 2018

Appendix 2 **SPEAKER PROFILE****ALEX NG**

Chief Investment Officer, Asia Pacific
BNP Paribas Asset Management

Alex Ng has more than 30 years of international investment experience and since 1999 has been Chief Investment Officer, Asia Pacific for BNP Paribas Asset Management.

Alex first joined the ABN AMRO Group in 1988. In 1991, he established the Hong Kong office of ABN AMRO Asset Management (Asia) Ltd (AAAM) which went on to become BNP Paribas Asset Management.

By 1995, Alex had transformed AAAM into the company's global asset management centre for Asian investments. Over time, Alex expanded the Asian investment network to include Japan, India, Indonesia, Australia and Singapore.

Alex was an early investor into China via the Qualified Foreign Institutional Investor (QFII) program. He was also one of the first foreign entrants into the China domestic asset management industry via a local joint-venture. BNP Paribas Asset Management now has a successful and profitable joint venture with one of the largest onshore brokerages, Haitong Securities. Alex has also served on the Investment Committee of a private equity joint-venture business with Haitong Securities since 2010.

In the late 90's, Alex established a Japanese Equity investment team in Tokyo and in 2004, he formed a partnership with Ajia Partners, a boutique alternative manager, and Mitsubishi Corp. Together they launched a successful private equity fund investing in Japanese real estate.

He served on the Board of Governors of the CFA Institute from 2003–2006 and the Listing Committee of The Hong Kong Stock Exchange from May 2006 – July 2010. He is currently Chairman of the Children's Medical Foundation, a Hong Kong based charitable organisation.

Alex graduated with a Bachelor's Degree in Economics from the University of California at Los Angeles (UCLA).

Appendix 2 **SPEAKER PROFILE**



ASSOCIATE PROFESSOR DR MOHAMED ESKANDAR SHAH MOHD RASID

Dean
International Centre for Education in Islamic Finance (INCEIF)

Assoc Prof Dr Mohamed Eskandar Shah Mohd Rasid is currently Dean of School of Graduate Studies at the International Centre for Education in Islamic Finance (INCEIF), a post graduate university specialising in Islamic Finance, established by Bank Negara Malaysia. He holds a PHD in Finance from University of Nottingham, United Kingdom. He also holds a Master in International Economics and Finance from University of Queensland, Australia and a Bachelor in Business Administration (Finance) from International Islamic University Malaysia (IIUM).

Prior to joining INCEIF, Dr Eskandar was an Assistant Professor at the Department of Finance, Faculty of Economics and Management Science, IIUM. He taught Futures, Options and Risk Management and International Finance at the graduate level and Corporate finance at the postgraduate level. During his Doctoral studies, he worked as a part-time tutor at University of Nottingham and Nottingham Trent International College.

His main research interests are in the area of asset pricing, portfolio theory, capital structure and international finance and has published articles in refereed international and local journals. He has also presented papers in several international and Islamic finance conferences.

Appendix 2 **SPEAKER PROFILE**



ALIBEK NURBEKOV

Head, Islamic Finance Department
Astana International Financial Centre (AIFC) Authority

Alibek Nurbekov is currently the Head of Islamic Finance Department at the Astana International Financial Centre (AIFC) Authority. Prior to his current position, he served as the Deputy Head of Regional Financial Centre of Almaty and Islamic Finance Development Department at the National (Central) Bank of Kazakhstan (NBK). Prior to that, he held a position as the Deputy Head of Financial Stability Department at NBK.

Before joining NBK, he held a position of planning and compliance advisor at the North Caspian Operating Company (NCOC) which is developing one of the largest and most complex hydrocarbon discoveries in the world – Kashagan. In the past he also worked as a project manager at the National Investment and Export Promotion Agency “Kazakh Invest” (formerly known as Kaznex Invest), as a senior consultant with the Center for Marketing and Analytical Research (CMAR) under the Government of Kazakhstan.

He also worked as a trade finance manager for the largest at the time sugar manufacturer in Kazakhstan “Sugar Center”, as an advisor to CEO for the construction company in Turkey “Ditaco International” as part of the AIESEC international traineeship exchange program. Alibek also held various part-time positions during his university studies – Friona Industries in USA, Peace and Cooperation in Spain, Kazakhstan Stock Exchange (KASE) and NBK.

Besides various training and qualification programs, Alibek holds a Bachelor’s degree in International Economics from the Kazakh Economics University - Narxoz (2002), a Bachelor’s degree in Law from the Al-Farabi Kazakh National University (2009) and an Executive Master’s Degree in Oil and Gas Leadership from the Graduate Institute of International and Development Studies in Switzerland (2013). He is currently pursuing a Master’s degree in Islamic Finance at IE Business School.

Appendix 2 **SPEAKER PROFILE**



CHRIS WAI KIT LEE

Chief Executive Officer
RAM Consultancy Sdn Bhd

Chris Lee leads RAM Group in the areas of Environment, Social and Governance. This includes developing a Sustainability business in ASEAN in the areas of Sustainability Rating, Sustainability Reporting, Training, Consultancy and providing second opinion on Green/Social/Sustainability Bonds and Sukuk.

Chris is a graduate of University of New South Wales, Australia with the combined degrees of Bachelor of Laws and Bachelor of Commerce (Accounting, Finance & Systems). He was admitted as a Barrister of the Supreme Court of New South Wales, Australia in 1991 and a member of the Australian Society of Certified Practising Accountants in 1994. His wide work experiences are in the areas of corporate debt restructuring, mortgage financing, taxation, credit rating and strategic business advisory.

Appendix 2 **SPEAKER PROFILE****TIFFANY GRABSKI**

Deputy Coordinator
Sustainable Stock Exchanges (SSE) Initiative

In her role as Deputy Coordinator at the United Nations SSE initiative, Tiffany leads a work stream on green finance and works with stock exchanges and regulators more broadly to improve sustainability and transparency of capital markets worldwide. Tiffany has been with the SSE for three years, and worked on the launch of its campaign to “close the gap on ESG reporting” within which the SSE asked all stock exchanges to commit to providing written guidance to listed companies on reporting ESG information. Prior to her work at the United Nations, Tiffany was a journalist specialized in the Latin American mining industry. Tiffany has an MBA focused on International Organizations, BA in International Business, and is currently working on a PhD at the University of Geneva.

Appendix 2 **SPEAKER PROFILE**



DATUK CHUNG CHEE LEONG

President and Chief Executive Officer
Cagamas Bhd

Datuk Chung Chee Leong is currently the Chief Executive Officer and an Executive Director of Cagamas Bhd, Malaysia's national mortgage corporation, a post he held since 1 April 2012.

He spearheaded Cagamas' entrance into the international bond market. Starting with the A3 Sovereign Equivalent International Rating by Moody's Investors Services, Datuk Chung was instrumental in establishing the company's USD5 billion Multicurrency EMTN Programme under which Cagamas' inaugural and South East Asia largest Offshore Renminbi bond was issued. Under his leadership, Cagamas also concluded the country's largest Sukuk issuance in 2013.

Datuk Chung served as the first Chairman of the Asian Secondary Mortgage Market Association in 2015. He is currently a member of the Bond Market Sub-Committee established by Bank Negara Malaysia focusing on development of the bond market in Malaysia.

Prior to his appointment, Datuk Chung has 29 years of experience in central banking focusing mainly on financial system stability and the financial sector. He has served as the Director of Bank Negara Malaysia's (BNM) Banking Supervision Department as well as the Risk Management Department. During his service with BNM, Datuk Chung also carried out assignments for the International Monetary Fund and the Islamic Financial Services.