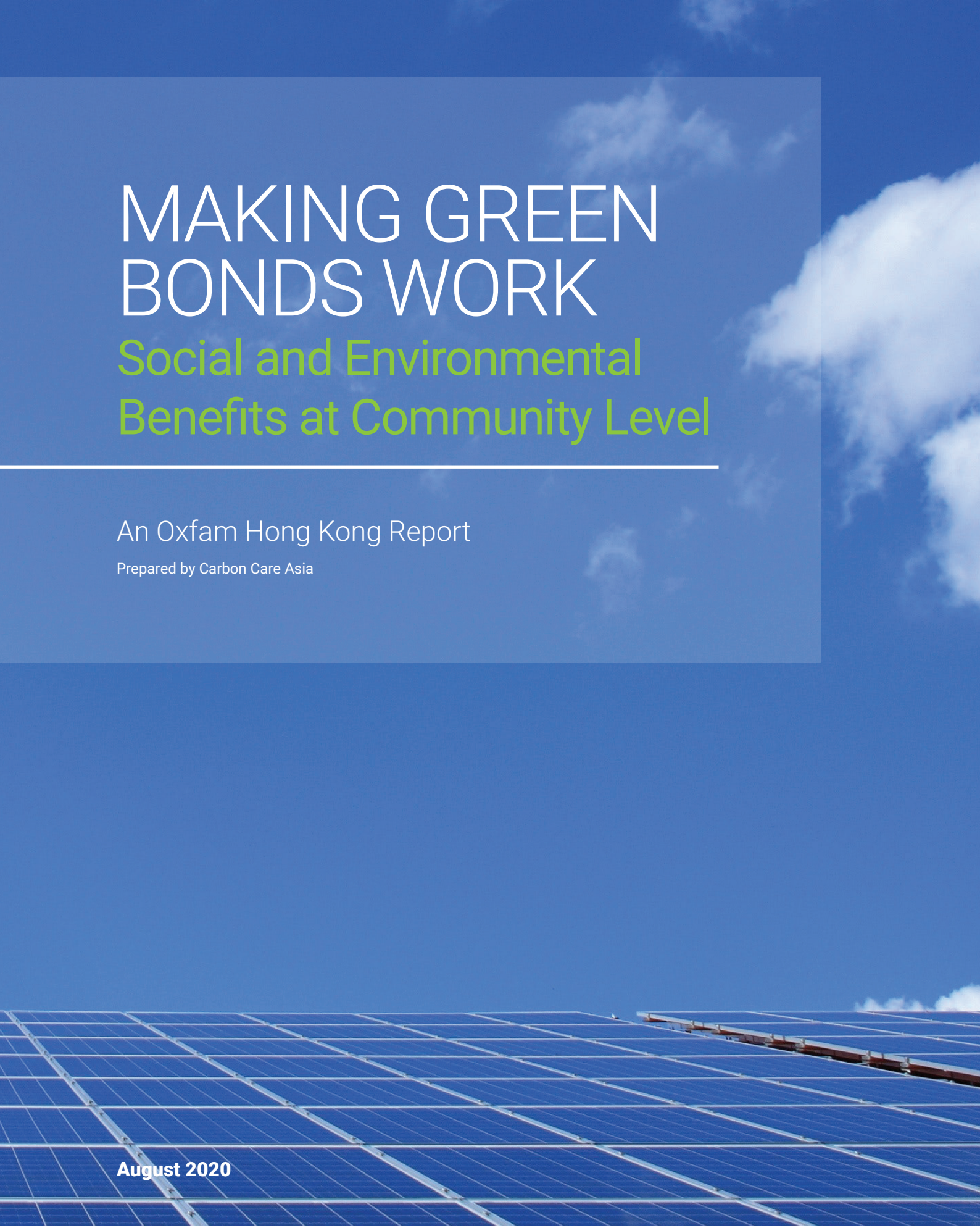
MAKING GREEN BONDS WORK

Social and Environmental Benefits at Community Level

An Oxfam Hong Kong Report

Prepared by Carbon Care Asia



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About Oxfam Hong Kong

Oxfam is a worldwide development organisation that mobilises the power of people against poverty. Oxfam is a confederation of 20 independent affiliates that works to find practical and innovative ways for people to lift themselves out of poverty and thrive. We save lives and help rebuild livelihoods when crisis strikes. And we campaign so that the voices of the poor influence the decisions that affect them. Oxfam Hong Kong was established in 1976 in Hong Kong. Over the years, we have partnered with millions of underprivileged people to alleviate poverty in more than 70 countries/regions around the world.

About Carbon Care Asia

Operating from Hong Kong and Singapore, Carbon Care Asia (CCA) is a mission-driven consultancy in corporate sustainability, carbon strategy, climate competence and sustainable finance. CCA offers integrated solutions to manage risks and capture business opportunities whilst tackling sustainability challenges and responding to the climate emergency. Since its establishment in 2008, CCA has served over 200 Asian companies in pursuit of its mission to accelerate the transition to a net-zero carbon economy benefitting all.

Abbreviations

ABMI	The Asian Bond Markets Initiative
ACMF	The ASEAN Capital Markets Forum
AGBS	ASEAN Green Bond Standards
ASEAN	Association of Southeast Asian Nations
CBI	Climate Bonds Initiative
CBIRC	China Banking and Insurance Regulatory Commission
CSO	Civil-society organisation
CSRC	China Securities Regulatory Commission
EM	Emerging Market
ESG	Environmental, Social and Governance
EU	European Union
GBF	Green Bond Framework
GBGS	Green Bond Grant Scheme (Hong Kong)
GBP	Green Bond Principles
GFCS	Green Finance Certification Scheme (Hong Kong)
GPIF	Government Pension Investment Fund (Japan)
GTFS	Green Technology Financing Scheme (Malaysia)
HKSAR	Hong Kong Special Administrative Region
HLEG	High Level Expert Group (EU)
HKQAA	Hong Kong Quality Assurance Agency
ICMA	International Capital Market Association
IFC	International Finance Corporation
KPI	Key Performance Indicator
MAS	Monetary Authority of Singapore
MIDA	Malaysian Investment Development Authority
NDRC	National Development and Reform Commission (China)
NGO	Non-Governmental Organisation
OJK	Financial Services Authority of Indonesia (Indonesian: Otoritas Jasa Keuangan)
PBoC	People's Bank of China
POJK	OJK Regulation
SBT	Science Based Targets
SDG	Sustainable Development Goal
SEBI	Securities and Exchange Board of India
SEC	Securities and Exchange Commission
TCFD	Task Force on Climate-related Financial Disclosures
TPEx	Taipei Exchange
VGGS	The Vietnam Green Growth Strategy

Executive Summary

Green bonds are important financial instruments for channelling additional funds to environmentally-beneficial projects and thereby accelerating the global transition to a low-carbon economy. The exponential growth of green bonds since 2013 has demonstrated their growing popularity in the financial market. Yet two questions are frequently asked by sustainability-conscious investors and civil society organisations: **how much have green bonds and climate bonds contributed to their stated environmental goals; and has there been adequate attention placed on the social impact of projects funded by green bonds?**

To get an insight into these questions, we have analysed 249 green bonds issued in Asia since 2018. Whilst 83% of the issuers disclosed the sustainability context of their bonds, **only 26% offered details on how environmental impact was identified in their project evaluation process. Some 8% offered details on how to manage environmental risks.** Despite the claimed contributions to climate goals in many projects, only 3% of issuers mentioned climate resilience measures in the green bond frameworks and a mere 1% indicated that they adopted best available technology in project design.

Although green bonds do not embed explicit social goals in their design, there is high expectation in the investor community that they contribute to social well-being, or at minimum do not work against achievement of the UN Sustainable Development Goals (SDGs). This study revealed that **only 6% of issuers adopted a process to identify the social impact of their bonds and 4% embraced a process to manage social risks.** Whilst 15% attempted to show some evidence of positive social impact, none has identified any action to prevent negative impact on the SDGs.

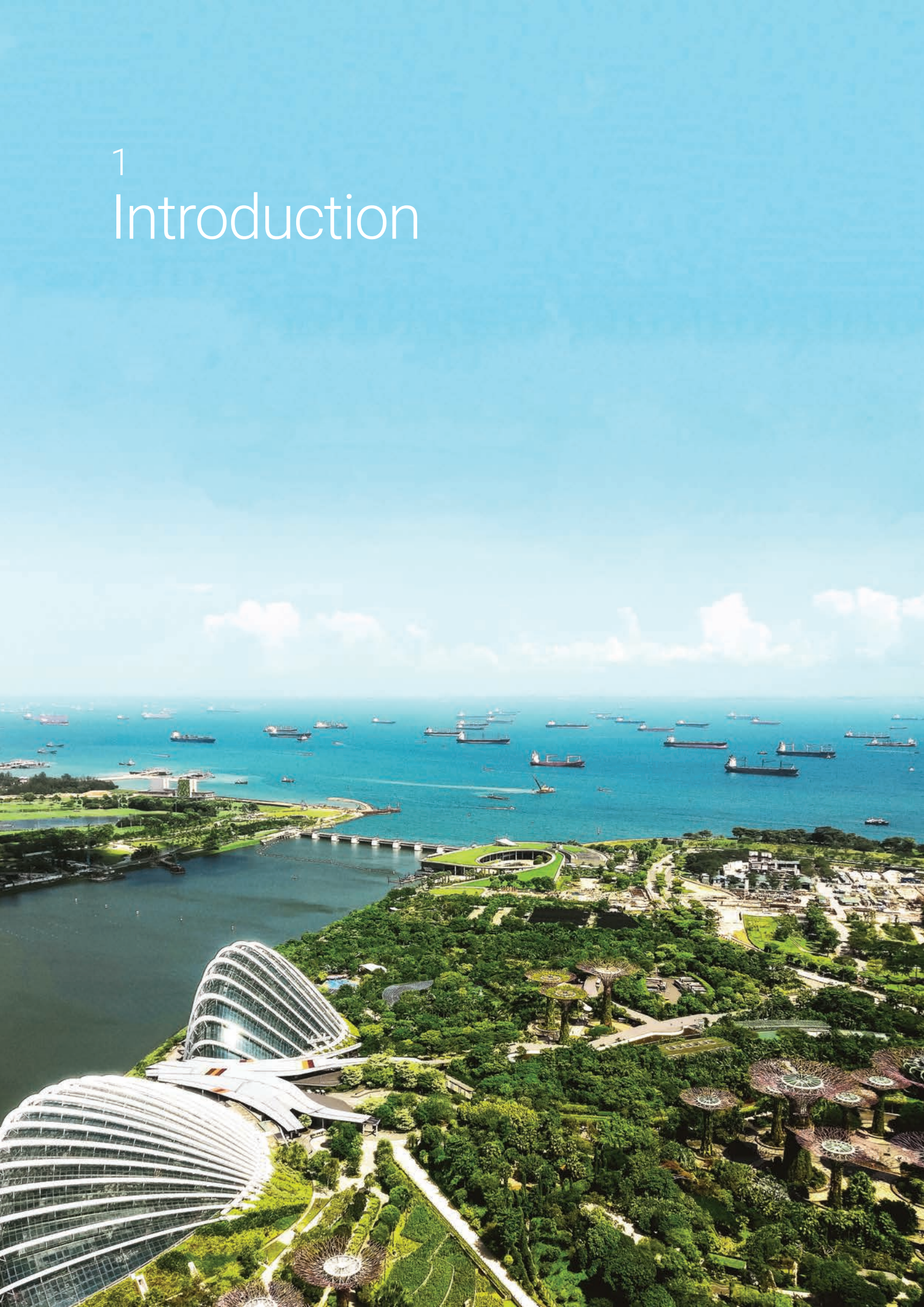
Since the provisions for environmental and social impacts in green bond standards do not differ much for most national, regional or international regimes, the findings in this research on Asian bonds may have wider implications for green bonds and climate bonds globally. The integrity of the green bond monitoring process is also a concern for investors. Many issuers failed to publish impact reports on time. Among those who published impact reports, **only 39% managed to use quantitative indicators to communicate environmental impacts; barely 26% disclosed their KPI methodology and assumptions.**

The future of green bonds can only be assured if investor confidence is enhanced through better standards and practices with regard to environmental outcomes, social impacts and process integrity. Even among mainstream economists, there is growing scepticism about the quality of ESG measurement and disclosure in climate finance. At the same time, **there is emerging evidence that green bonds are retaining value better than mainstream corporate debt during the Covid-19 pandemic - which has spurred more investor interest.** This combination of scepticism and enthusiasm presents an unprecedented opportunity for reform.

Going forward, a broad stakeholder engagement process with the full range of market players - from regulators, issuers and intermediaries to asset owners and standard-setters – is essential in creating a consensus for progress. **All parties will benefit from improving the standards and practices for the issuance of green bonds and climate bonds, so as to increase their appeal to sustainability-conscious investors and enhance their contributions to the community.** This engagement process will be the focus of the next phase of this research.

1

Introduction



Mobilising the capital market to achieve the United Nations Sustainable Development Goals (SDGs) and the crucial target to limit the global temperature increase within 1.5℃ is the key driver of the development of the green bond and sustainable finance market. With the aim of accelerating a low carbon transition and resilient capacity building, Oxfam believes the way forward is to build consensus among key stakeholders to ensure effective and inclusive development of green bonds.

A green bond is a debt security created to finance projects or organisations that intend to produce environmental benefits and contribute to the transition towards a low-carbon economy. Proceeds may provide funding for projects related to renewable energy, clean transportation, sustainable water, waste treatment, green buildings as well as other areas that can demonstrate positive environmental impact.

The growth in green bond issuance slowed in 2018, but picked up pace again in 2019. Global green bond issuance has grown 15 times from USD 11 billion in 2013 to USD 257.5 billion[1] in 2019. Asia-Pacific was home to the biggest increase last year. Oversubscription is the norm when these bonds are issued. Further market growth is expected because investment in climate projects is estimated to reach USD 90 trillion by 2030[2], as part of nations' efforts to achieve the carbon reduction targets set in the Paris Agreement.

Government and the private sector have welcomed the instrument, although the impacts on the environment and communities are in need of more scrutiny from the civil society perspective. Back in 2014, over 100 civil society organisations pointed out that common standards and criteria should be created to ensure that capital raised is definitely used for climate-friendly initiatives. They proposed four requirements[3] but gaps in the system have not been eliminated to date.

- **Exclusion of dirty energy**
- **Safeguards for the environment and affected communities**
- **Transparency and reporting**
- **Guaranteed use of proceeds**

Oxfam advocates shifting finance to renewable energy and low carbon economy. It believes that Government and the private sector could potentially contribute to the environmental and social impact of green bonds, improving their assessment and management. Oxfam Hong Kong commissioned Carbon Care Asia to conduct the study with the focus on green bonds issued in Asian emerging markets and the two financial hubs, Singapore and Hong Kong, between January 2018 and September 2019.

1 Climate Bonds Initiative (2020)
2 Available at https://www.un.org/pga/71/wp-content/uploads/sites/40/2017/02/New-Climate-Economy-Report-2016-Executive-Summary.pdf
3 Available at https://1bps6437gg8c169i0y1drtgz-wpengine.netdna-ssl.com/wp-content/uploads/2017/legacy/9-18-14_Ban_Ki_moon_green_bonds_letter.pdf

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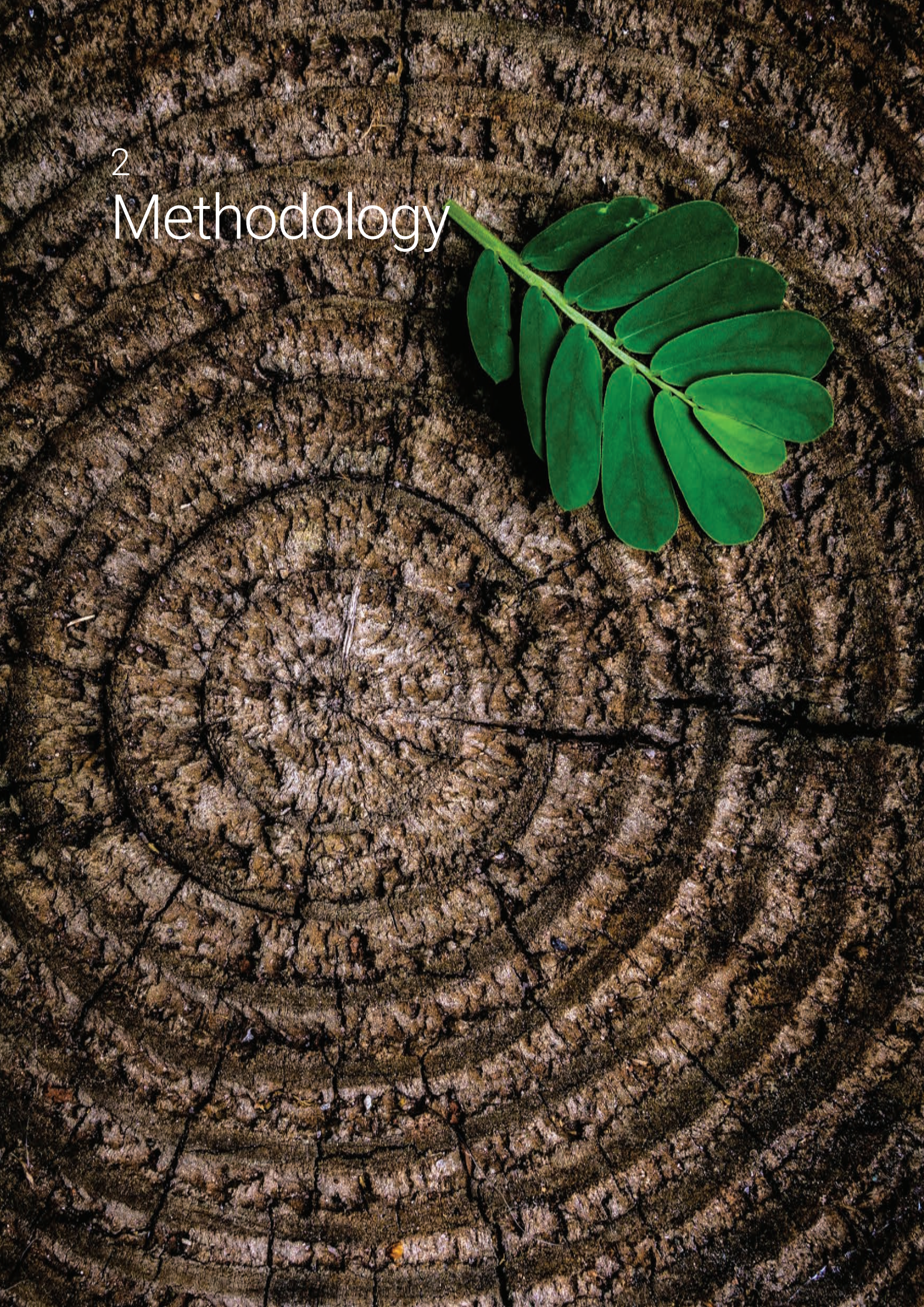
Methodology



2.1 Scope of Research

The scope of the Asian green bond universe included in this research covers 249 bonds issued between January 2018 and September 2019. Since the focus of this research is Asian emerging markets, green bonds issued in Japan, Korea and Australia are excluded. The total amount of money raised in the selected universe equals USD 84.0 billion, comprising:

- **China (onshore)** - 181 bonds, USD 57.0 billion
- **China (offshore)** - 15 bonds, USD 13.6 billion
- **Hong Kong** - 14 bonds, USD 4.1 billion
- **Taiwan** - 12 bonds, USD 0.9 billion
- **India** - 8 bonds, USD 3.5 billion
- **ASEAN** - 19 bonds, USD 4.9 billion

Chart 1. Number of Green Bonds by Country / Region

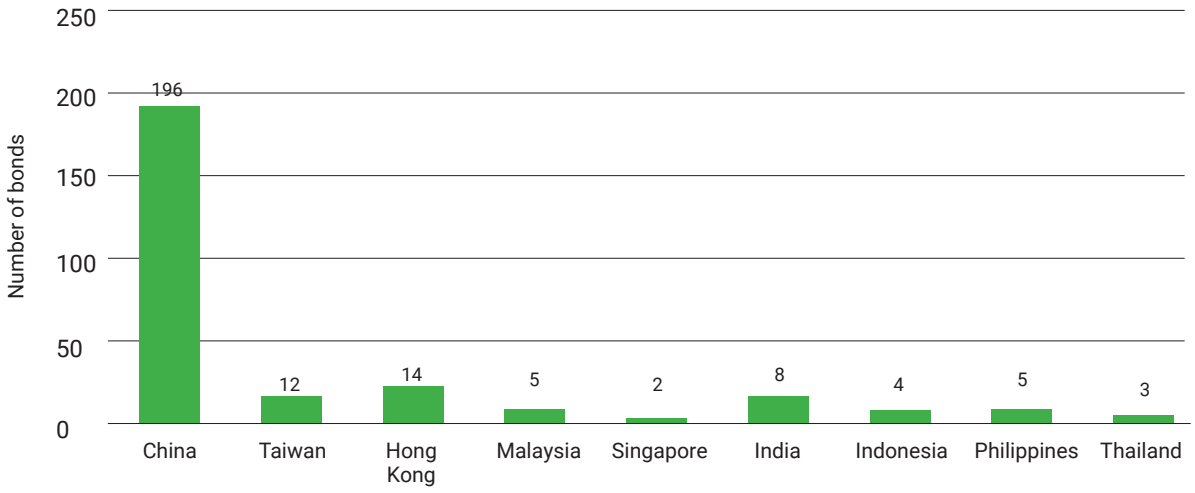
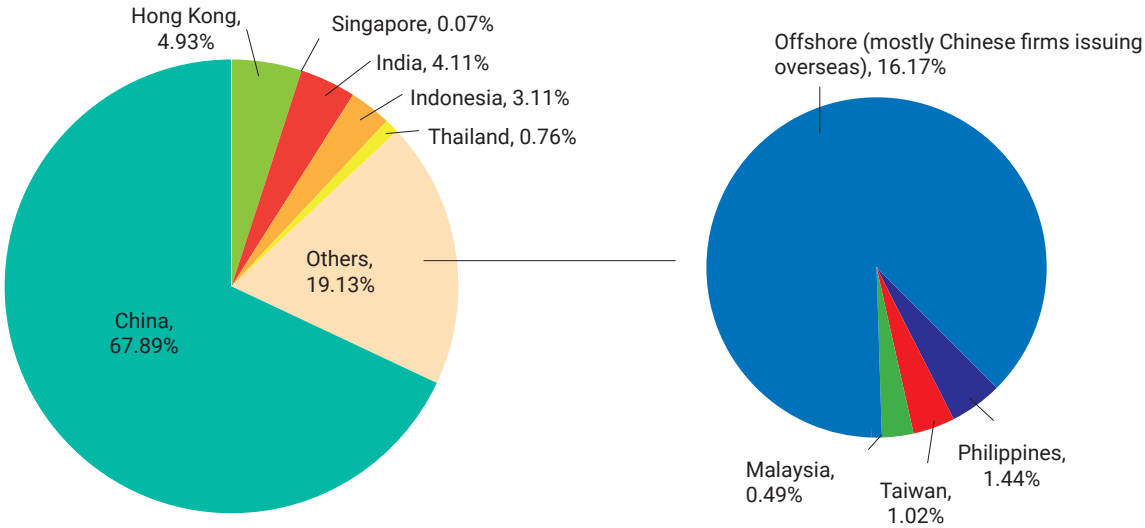


Chart 2. Amount of Green Bond Issuance by Country / Region



Although the proportion of green bonds issued in ASEAN countries is currently small, it is a fast-growing region with diversified deals. As an illustration, the ASEAN green bonds included in this study (those issued between January 2018 and September 2019 but excluding non-listed deals) are shown below.

Indonesia

Issuer	Amount issued	Issue date	Industry	Sub-industry
Republic of Indonesia	USD 1.25 billion	Mar 2018	Sovereigns	--
Star Energy Geothermal (Wayang Windu)	USD 580 million	Apr 2018	Utilities	Power generation
PT Sarana Multi Infrastruktur	IDR 500 billion (USD 50 million)	Jul 2018	Financials	Commercial finance
Republic of Indonesia	USD 750 million	Feb 2019	Sovereigns	--

Malaysia

Issuer	Amount issued	Issue date	Industry	Sub-industry
Segi Astana Sdn Bhd	MYR 415 million (USD 104 million)	Jan 2018	Financials	Real estate
Sinar Kamiri Sdn Bhd (Mudajaya Group)	MYR 245 million (USD 63 million)	Jan 2018	Utilities	Power generation
UiTM Solar Power Sdn Bhd	MYR 222 million (USD 57 million)	Apr 2018	Energy	Renewable energy
Pasukhas Group	MYR 200 million (USD 50 million)	Feb 2019	Engineering	Construction
Telekosang Hydro One Sdn	MYR 590 million (USD 141 million)	Aug 2019	Energy	Renewable energy

The Philippines

Issuer	Amount issued	Issue date	Industry	Sub-industry
AC Energy	USD 300 million	Jan 2019	Utilities	Power generation
AC Energy	USD 110 million	Feb 2019	Utilities	Power generation
Rizal Commercial Banking Corp	USD 286.5 million (PHP 15 billion)	Feb 2019	Financials	Banks
Bank of the Philippine Islands	USD 401.5 million (USD 300 million and CHF 100 million)	Sep 2019	Financials	Banks

Singapore

Issuer	Amount issued	Issue date	Industry	Sub-industry
Sindicatum Renewable Energy	INR 2.536 million (USD 40 million)	Jan 2018	Energy	Renewable energy

Thailand

Issuer	Amount issued	Issue date	Industry	Sub-industry
BTS Group Holdings	THB 13 billion (USD 408 million)	May 2019	Consumer discretionary	Travel and lodging
Energy Absolute	THB 3 billion (USD 97 million)	Jul 2019	Utilities	Power generation
Energy Absolute	THB 4 billion (USD 130 million)	Aug 2019	Utilities	Power generation

Table 1 Green bonds issued in AESAN countries

2.2 Analytical Framework

The growth of green bonds is best examined in the context of global developments; in particular the international negotiations on climate change and the response of the financial market. Desktop research examined some key aspects of green bond development:

- **regional policies and incentives;**
- **international, regional and national standards and guidelines;**
- **international best practices and trends; and**
- **feedback from investors and asset owners.**

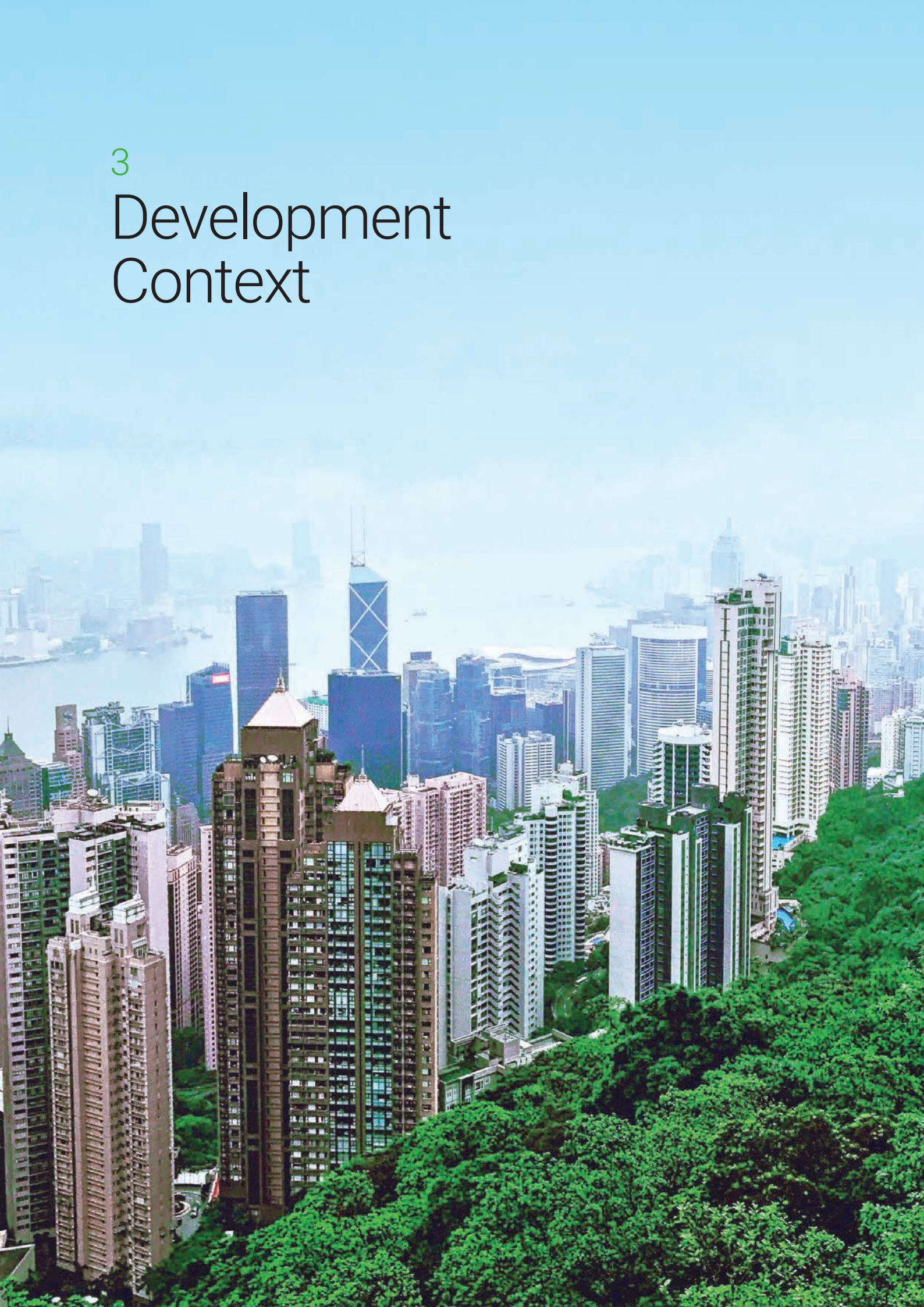
After establishing the scope of the research, the following information was collected for each of the bonds from public sources, including company websites, stock exchanges and debt data platforms. Sources included:

- **the issuer's green bond framework;**
- **external review reports (when available); and**
- **latest annual impact reports (when available).**

To identify gaps in information on applicable standards and best practices, a bond evaluation framework was developed which enabled us to examine in a consistent manner each bond's transparency and governance as well as the processes adopted to assess and manage environmental and social impacts on the community. The framework takes reference from international guidelines such as Green Bond Principles and Climate Bond Standard, as well as expectations voiced by civil society organisations (CSOs). Details of the bond evaluation framework can be found in Appendix I.

3

Development Context



The growth of the green bond market is attributable to both policy support and investor demand. Incentives from the governments have included subsidies to cover verification costs and some tax benefits.

There is increasing interest on the part of asset owners such as pension fund holders and individual investors to ensure a more ethical and sustainable approach to investment choices. Investors who have long excluded 'sin stocks' such as gambling, weapons, pornography and alcohol are looking increasingly closely at the ethics of investment in fossil fuels and other environmentally-damaging activities.

In addition to those investors already valuing sustainable investments – such as family offices, pension funds, municipal funds, universities and faith-based investors – mainstream institutional investors such as BlackRock, Amundi, Allianz and Mirova are also seeking investment opportunities that are more sustainable and more long term; announcing that their strategy will combine purpose with profit.

Issuers of green and sustainable bonds have found that these bonds attract new categories of investors and build their reputation as forward-thinking organisations.

3.1 Green Bond Standards

The Green Bond Principles (GBP) launched by the International Capital Market Association stand as the closest thing to an international standard for green bonds although compliance is voluntary and often self-defined. More comprehensive guidelines for green bonds specific to a range of different sectors have been drafted by the Climate Bonds Initiative (CBI). The EU High-Level Expert Group (HLEG) on Sustainable Finance has established a taxonomy aiming at "a unified EU classification system of sustainable economic activities" to draw a clearer line between what constitutes a green project and what does not. Most standards detail procedures for use of proceeds, the evaluation and selection process, management of proceeds and reporting. To make a green bond more transparent, issuers can obtain external reviews at pre-issuance and post-issuance stages.

International level

As of today, there are many different standards and guidelines for defining and regulating green bonds and green loans. In this section, we summarize the key features of the main international standards as well as the regional-specific standards, with a particular focus on ASEAN.

Green Bond Principles (GBP)

The Green Bond Principles were developed by the International Capital Market Association (ICMA) in 2014, and the latest updates were made in June 2018. These are a broad set of voluntary guidelines that point the way for green bond issuers to develop a transparent and healthy green bond market. The GBP are seen as the overarching global standard for the issuance of green bonds. Green bonds that adhere to the GBP allow various stakeholders such as investors, banks, underwriters and governments to understand the purpose and management of a particular green bond. The GBP contain four core elements:[4]

I. Use of Proceeds

The purpose and destination(s) of the proceeds collected by the green bond from investors must be stated clearly. The green funding destinations that the GBP allows are typically related to sustainability and the environment, including projects for climate change adaptation and mitigation, such as energy efficiency, as well as pollution control. Issuers also need to state the proportion of the proceeds that go into the related projects

II. Process for Project Evaluation and Selection

Issuers must communicate clearly to stakeholders about the sustainability objectives, eligibility criteria of the selected green projects and environmental and social risks associated with green projects.

III. Management of Proceeds

The GBP dictate that issuers should credit the net proceeds of their green bonds to a separate account that can be distinctly tracked by the issuer. Issuers are also encouraged to employ third parties such as an auditor to verify proper allocation of proceeds as well as the issuers' internal procedures for of fund tracking.

IV. Reporting

GBP recommends issuers remain as transparent as possible on the information disclosure of their green bonds, including fund allocation, net balance of the portfolio, and the development and impact of individual green projects.

Climate Bonds Standard

The Climate Bonds Standards are based on more rigorous criteria than the GBP. The standard ensures that climate bonds are consistent with the 2-degree Celsius warming limit of the 2015 Paris Agreement. There is a list of sector-specific eligibility criteria for sectors such as water infrastructure, geothermal energy, low-carbon transport and solar and wind power. In order to be certified by the Climate Bonds Standards, the issuer needs to seek an audit by a CBI-approved verifier followed by approval from CBI.

4 Available at https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/

National/Regional level

The ASEAN Green Bond Standards (AGBS) are the joint collaboration between ICMA and the ASEAN Capital Markets Forum (ACMF). The AGBS are designed to enhance consistency, uniformity and transparency of green bonds and to give more specific guidance on applying the GBP voluntary standards to ASEAN issuers. Issuers who can fulfil the requirements of the AGBS can be labelled as ASEAN Green Bonds. The AGBS label helps to increase investor confidence on green bonds issued across ASEAN countries.

Some countries have issued their own standards or guidelines for green bond issuance. For comparison purpose, the standards adopted by Japan and EU are also included here because of their widespread usage and market reputation in global green bond issues. The following table compares national, regional and international standards.

Standard	Eligibility criteria for green projects	Disclosure of proportion of proceeds used for refinancing	Impact monitoring and reporting	External review requirements	Publication of external review	Accreditation of external reviewers
Climate Bonds Standard[5]	Sector-specific criteria under the Climate Bonds Taxonomy. Issuer needs an approved CBI verifier for pre-issuance and post-issuance engagements	Recommended	Required to report at least annually to investors and the CBI on bond proceeds and allocation	CBI-approved verifier is required.	Verifier Reports shall be confidential to CBI unless the issuer voluntarily discloses these.	Issuers can only seek verification from approved verifiers under CBI
EU Green Bond Standard[6]	Compliance with a detailed EU Sustainable Finance Taxonomy	Required	Required to report whether issuer is monitoring impact or not. If so, disclose estimated/ actual impact	Required	Required	Sets out accreditation requirements for external reviewers
ASEAN Green Bond Standards[7]	Same as the Green Bond Principles except fossil fuel power projects are excluded	Recommended	Encouraged for more frequent reporting and higher transparency on proceed allocation through issuer's dedicated website	Recommended	Recommended	External reviewer should provide their credentials and expertise, and the scope of review conducted on a issuance

5 Available at https://www.climatebonds.net/climate-bonds-standard-v3
6 Available at https://ec.europa.eu/info/publications/sustainable-finance-teg-green-bond-standard_en
7 Available at https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards

Standard	Eligibility criteria for green projects	Disclosure of proportion of proceeds used for refinancing	Impact monitoring and reporting	External review requirements	Publication of external review	Accreditation of external reviewers
Green Bond Principles[8]	Guidance on high level categories	Recommended	The use of qualitative performance indicators and quantitative performance indicators are recommended wherever possible	Recommended	Recommended	Not specified
Japan Green Bond Guidelines[9]	Guidance on high level categories	Recommended	Recommended wherever possible	Recommended	Recommended	Recommended for external reviewers to have relevant expertise but issuers are not required to publicly disclose this information
India Disclosure Requirements for Issuance and Listing of Green Debt Securities[10]	Guidance on high level categories	Recommended	Recommended wherever possible	Recommended	Recommended	Not specified
Hong Kong Green Finance Certification Scheme[11]	8 primary categories	Recommended	Impact assessment plan for pre-issuance certification and impact assessment report and analysis for post-issuance certification	Mandatory	None on external review but public information disclosure on certification-related issues are required	None
China Green Bond Endorsed Project Catalogue (2020 version)*	6 high level categories with 4 tiers of specific green project	Not specified	Regular reporting and updates on bond status and fund allocation for green projects are encouraged and should be tracked	Recommended	Recommended	Verifiers will have to register with the China Green Bonds Standard Committee.

*In the process of public consultation

Table 2 Comparison of green bond standards

8 Available at https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/
9 Available at https://www.env.go.jp/en/policy/economy/gb/guidelines.html
10 Available at https://www.sebi.gov.in/legal/circulars/may-2017/disclosure-requirements-for-issuance-and-listing-of-green-debt-securities_34988.html
11 Available at http://www.hkqaa.org/en_certservice.php?catid=26

At the national or regional level, the following features of different standards are worth noting in particular:

ASEAN

The key additional guidelines within the AGBS include:

- Exclusion of projects involving fossil fueled power development;
- More frequent and transparent reporting on an accessible website during the tenure of the green bond;
- Open publication of the credentials and experience of the external reviewer or auditor of the green bond in the issuer's website.
- External review is voluntary. However, when an independent party is appointed to verify the issuer's management of proceeds, the report produced shall be publicly available on the issuer's website

India

The Indian standard has followed the framework of GBP, without specification on the green projects' eligibility, though they have set rules on more frequent mandatory reporting (biannual) and impact report is also a must to be eligible for the listing in India. The appointment of external reviewer is optional for green bond listing, though any such appointment shall be disclosed in the bond offering document.

China

The latest consultation paper published in May 2020 on the Chinese green bond standard is the result of the harmonisation process between various standards and guidelines set by different government departments over the past few years. In addition to the standard itself, the government continuously rolls out supporting documents to promote better practices in transparency and governance. For instance, PBoC and CSRC issued specific guidelines to regulate the practices of external review, requiring banks to publish quarterly updates and annual reports (including impacts and case studies) for their green bonds.

The Chinese authorities have apparently responded to past criticism on the inclusion of clean utilisation of coal and other fossil fuel as an eligible category of green projects by deleting this item in the latest consultation paper. However, some other controversial categories such as nuclear power plants, nuclear equipment manufacture and large hydropower projects still remain. The paper provides four tiers of catalogue to specify the eligible projects, and the inclusion of green service (such as consultancy services for emissions trading, green certification and envirmental impact assessment) is a unique measure compared to other standards.

3.2 Policies and Incentives

Many Asian countries and cities are keen to position themselves as a green finance hub or to encourage local banks or companies to issue green bonds. Hence many governments have announced favourable policies or offered financial incentives for green bond issues. To varying degrees, these government initiatives have accelerated the growth of green bonds in Asia.

Country/Region	Incentives	Policies
China	• Low central bank borrowing costs and subsidized interest payments on green bonds are available for banks and businesses. • Green finance pilot zones.	• People's Bank of China (PBoC) Green Bond Endorsed Project Catalogue. • National Development and Reform Commission (NDRC) Guidelines on Green Bond Issuance. • Guiding Opinions of the China Securities Regulatory Commission (CSRC) on Supporting the Development of Green Bonds. • Green Credit Guidelines of the CBIRC • PBoC and CSRC Guidelines for the Conduct of Assessment and Certification of Green Bonds (Interim). • Guiding Catalogue for the Green Industry (2019).
Hong Kong	• The HKSAR Government has launched Green Bond Grant Scheme (GBGS) to help issuers to lower their funding costs: - For reimbursing the cost of obtaining the GFCS certification, up to a maximum of HKD 800,000 per bond issuance; - The scheme will run for 3 years from June 2018; and - Green bond issuance size must be at least HKD 500 million.	• Green Finance Certification Scheme (GFCS) under the HKQAA on certifying green projects. • Sovereign Green Bond Issuance Programme. HKD 100 billion allocated for issuing green bonds by the HKSAR Government. The first batch was issued in May 2019.
India	• No credit incentives or tax exemptions designed for green bonds at time of writing.	• Based on the GBP, the Disclosure Requirements for Issuance and Listing of Green Debt Securities was published by the Securities and Exchange Board of India (SEBI) in 2017.
Indonesia	• The Financial Services Authority of Indonesia (OJK) has yet to issue guidance or regulation for green bond incentives.	• The OJK launched the Roadmap for Sustainable Finance in 2014. • In 2017, the OJK issued a regulation (POJK 60) regulate terms and issuance of green bonds. It requires at least 70% of proceeds to finance green projects in 11 categories.

Country/Region	Incentives	Policies
Malaysia	• MIDA and Green Tech Malaysia tax incentives for green tech projects in areas like building, waste management and energy. • SRI Sukuk bond issuance costs can benefit from tax deduction introduced by the Malaysia Securities Commission under the Green SRI Sukuk Grant Scheme. • Green Technology Financing Scheme (GTFS) since 2010 in 2 phases (1.0 and 2.0). GTFS 2.0 allows green bond and Sukuk issuers to benefit from coupon and profit subsidies. • A total of RM2 billion (USD 479 million) for Sukuk and green bond issuance is guaranteed by national financial guaratee insurers.	Malaysia has several different frameworks and policy guidelines for the green finance market: • 11th Malaysia Plan; • Green Technology Master Plan; • SRI Sukuk Framework (Securities Commission); • ESG Index and Sustainability Reporting (Bursa); and • Value-based Intermediation (Central Bank).
Philippines	• No credit incentives or tax exemptions designed for green bonds at time of writing	• The Philippines SEC has adopted the Guidelines on the Issuance of Green Bonds under the ASEAN Green Bond Principles since August 2018.
Singapore	• The Monetary Authority of Singapore (MAS) launched its Green Bond Grant Scheme and Sustainable Bond Grant Scheme to allow qualified issuers to reimburse 100% of external reviewing costs, subject to a cap of SGD 100,000. - The scheme is valid from 1 January 2019 to 31 May 2023. - Qualified issuance allowing the use of a programme size of at least SGD200 million with an initial principal amount issued of at least SGD 20 million (or its equivalent in another currency), as an alternative measurement for the minimum issuance size requirement; and the minimum tenure is "at least 1 year".	• Corporate issuers tend to stick to best-in-class global green bond standards such as the Climate Bond Standard with external reviews provided by international consultancies.
Taiwan	• Tax exemptions for investing in and issuing green bonds. • Interest subsidies for green bond issuers in specific industries.	• The Executive Yuan approved a Green Finance Action plan in 2017. • The Taipei Exchange (TPEx) released the Green Bond Accreditation. Programme in 2017 to ensure green bonds are on par with international standards.
Thailand	• No credit incentives or tax exemptions designed for green bonds at time of writing.	• Co-chairs the ABMI Task Force on green bonds in ASEAN. • No national regulatory framework for green bond but the Thailand SEC is in charge of approving green bonds.

Country/Region	Incentives	Policies
Vietnam	• No credit incentives or tax exemptions designed for green bonds yet. • Based on the government's strategy to support green credit growth, the State Bank of Vietnam has drafted a green credit program worth about USD 100 million to be piloted for small and medium-sized enterprises (SMEs) of three state-owned commercial banks (Vietcombank, BIDV and Agribank) and one private commercial bank (Sacombank). The interest rates which are applied to SMEs will be 1-3% lower than the market interest rates. Banks participating in the programme will be refinanced from SBV at interest rates 1% lower than usual.	• In 2015, The State Bank of Vietnam published the Directive on Promoting Green Credit and Managing Environmental and Social Risk in Lending Activities in order to promote green bond issuance locally. • The Vietnam government launched its Green Growth Strategy (VGGS) and it aims to raise funds for green projects across the country in the 2011-2020 period. • In the roadmap for developing the green bond market in the period of 2017-2020, with a vision to 2030 (Decision No. 1191 / QD-TTg of the Prime Minister on August 14, 2017), mechanisms and policies of coordination on the green bond market aims to create the ability for issuers to raise capital by issuing bonds to implement green projects.

Table 3 Comparison of government policies and incentives on green bonds

3.3 Investor Perspectives

The way in which investors value green bonds and sustainable finance is one of the key forces shaping this part of the capital market. Investors themselves need to examine the information offered by the bond issuer to judge the positive environmental impact and additionality of any bond they purchase, as well as being alert to cases of greenwashing. Besides the specific issuing requirements for green bonds, the investors are considering "the issuers' ESG profile holistically"[12]. Although it is stated that the issuer "should clearly communicate to investors… or any other process applied to identify and manage potentially material environmental and social risks associated with the projects" in GBP, how the environmental and social risk being managed are not clearly addressed.

More financial institutions are acknowledging the importance of climate change risk analysis as a financial issue as well as a pointer to business, ethical and reputational benefits of positive environmental impact. The false debate about a trade-off between high returns and green credentials is receding. Industry initiatives like the Task Force on Climate-Related Financial Disclosures (TCFD) are being mainstreamed by the bigger players in the financial world as well as considered by regulators. The rest of the sector is aware that they will need to follow once TCFD recommendations are embedded in rules and regulations. In the 2020 annual letter to CEOs, BlackRock Chief Executive Larry Fink said: "Climate change has become a defining factor in companies' long-term prospects … But awareness is rapidly changing, and I believe we are on the edge of a fundamental reshaping of finance." [13]

According to a poll held at the G20 Green Finance Conference in Singapore in 2017[14], it is not a lack of investor demand but rather a lack of environmental data and investable projects that hampers the scaling up of green finance. Some Asian countries such as Japan demonstrate a real green appetite from institutional and retail investors but face a small local market.[15] Hiro Mizuno, Chief Investment Officer of Japan's Government Pension Investment Fund (GPIF) made clear that GPIF would like to build up its holdings of green bonds to support environmental projects.[16]

Case Study – IFC Amundi Fund

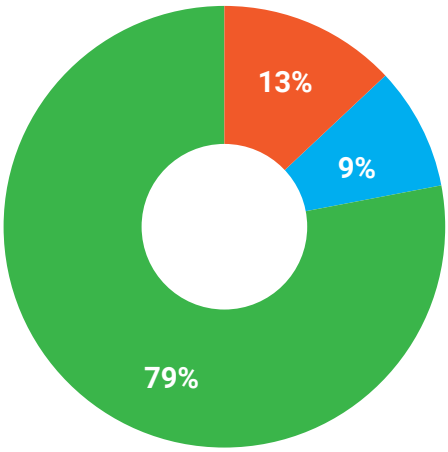
Among the existing green bond funds, the USD 1.4 billion Amundi Planet Emerging One[11] launched in partnership with the International Finance Corporation (IFC), is worth examining. Currently the world's largest green bond fund, Amundi Planet is dedicated to scaling up green bond issuance in emerging markets and connecting global investors to the opportunities in green projects. The fund showcases a number of best practices to ensure that investments will result in clear environmental benefits. For instance, it only invests in green bonds that meet the criteria of the GBP and are backed by an external review as well as an impact assessment of the use of proceeds. Green bonds exposed to high ESG risks and carbon intensive sectors are excluded.

12 P. Deschryver and F. de Mariz (2020), What Future for the Green Bond Market? How Can Policymakers, Companies, and Investors Unlock the Potential of the Green Bond Market? Journal of Risk and Financial Management.
13 Larry Fink's Letter to CEOs. Blackrock (2020), available at https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter
14 Available at https://www.brinknews.com/asia/green-finance-in-asia-the-public-sector-push/
15 Bell, D., 2017. Locals in focus with Japanese green bonds all set to blossom. Available at: https://www.globalcapital.com/article/b12bhj651t6dc4/locals-in-focus-with-japanese-green-bonds-allset-to-blossom
16 Three steps to improve the green bond market. Aviva (2019), available at https://www.avivainvestors.com/en-gb/views/aiq-investment-thinking/2019/09/three-steps-to-improve-the-green-bond-market/

At the same time, however, green bonds have faced scepticism. According to asset managers Franklin Templeton: "Some investors harbour suspicions that green issuance is simply an attempt to rebrand a company, without changing any of its climate-damaging behaviours." As a result, sustainability-conscious investors have to research deeper and adopt a wider view of the issuance to assess whether the issuer has governance and management in place to successfully deliver the project and its environmental benefits.[17]

This is why investors regard disclosure and transparency in a green issuance so highly. In the 2019 Climate Bond Initiative's "Green Bond European Investor Survey", 79% of respondents say they would not buy a green bond if the proceeds were not clearly allocated to green projects at issuance and 55% would definitely sell if post-issuance reporting was poor, and 30% said they would be more likely to.[18]

Chart 3. Unclear Green Use of Proceeds strongly influences Investment



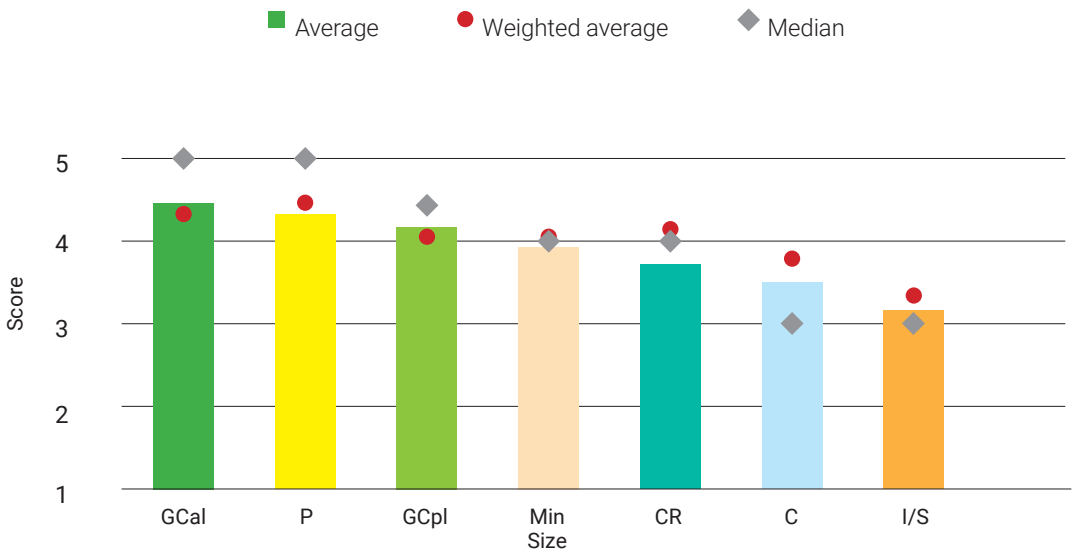
Source: Climate Bond Initiative, Green Bond European Investor Survey, 2019

Transparency around the use of proceeds allows investors to apply some exclusion filters and exclude bonds that allocate money to projects that are not aligned with their values. To a survey organised by ICMA in 2018, 70% of respondents answered that they exclude green bonds with projects linked to nuclear energy, and 67% exclude green bonds linked to fossil fuel projects.[19]

To ensure the transparency and disclosure necessary for these exclusions, green credentials at issuance and post-issuance are highly valued. According to the aforementioned CBI survey, the most important factor for making a green bond investment decision is satisfactory green credentials at issuance, followed by pricing and satisfactory green credentials post-issuance. However, almost 60% of investors think that issuers currently do not deliver sufficient information.

17 Green Bonds: Seeking New Opportunities to Invest for Good. Franklin Templeton (2019)
18 Available at https://www.climatebonds.net/files/files/GB_Investor_Survey-final.pdf
19 Available at https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2018/Investor%20survey%20140618.pdf

Chart 4. Green Credentials and Pricing are the most important to Decision-making



Abbreviations

GCal *= green credentials at issuance,* ***P*** *= pricing,* ***GCpl*** *= green credentials post-issuance,*

Min size *= minimum size of issue/liquidity,* ***CR*** *= credit rating constraints,*

C *= currency preferences,* ***I/S*** *= issuer/sector constranints*

Source: Climate Bond Initiative, Green Bond European Investor Survey, 2019

Finally, evidence of green integrity and transparency are even more important for green bonds from Emerging Markets (EM). According to the aforementioned CBI survey, three quarters of respondents treat EM differently from Developed Markets, stating that they require more evidence of integrity to invest in green bonds from EM. Green credentials through standardised documentation and external reviews as well as transparency around use and management of proceeds reassure investors buying green bonds from emerging markets.

4

Analysis and Findings

The key findings of the analysis are discussed under three topics: how environmental impacts are assessed, monitored and managed; how social impacts are assessed, monitored and managed; and how credible the green bond issuance and reporting process are in terms of fund allocation and KPI disclosure. Selected case studies are listed in Appendix 2 and Appendix 3 to illustrate the performance gaps and best practice against these dimensions.

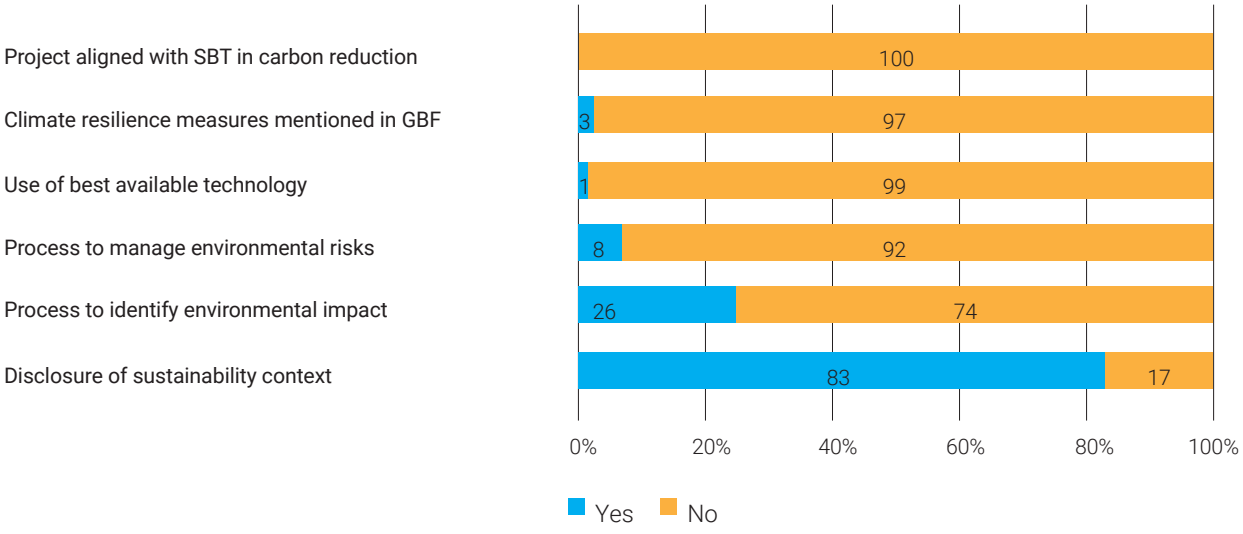
4.1 Environmental Impact

Among all Asian green bonds studied, whilst 83% of the issuers disclosed the sustainability context of their bonds, only 26% offered details on how they identify environmental impact in their project evaluation process, and 8% offered details on how they manage environmental risks. Despite the claimed contributions to climate goals in many projects, only 3% of issuers mentioned climate resilience measures in the green bond frameworks. This could imply that most of the projects have not gone through any assessment of climate risks or strategic planning for climate adaptation.

For any project, if a more energy efficient or environmentally friendly technology is available but not deployed, that represents an opportunity lost in bringing about the maximum environmental benefits. Out of all projects studied, only 1% claimed that the best available technology is adopted in project design. Whilst it is acknowledged that under certain circumstances the second best technology options may need to be adopted for technical or financial reasons, a full disclosure would be warranted to enable investors to make their own judgements.

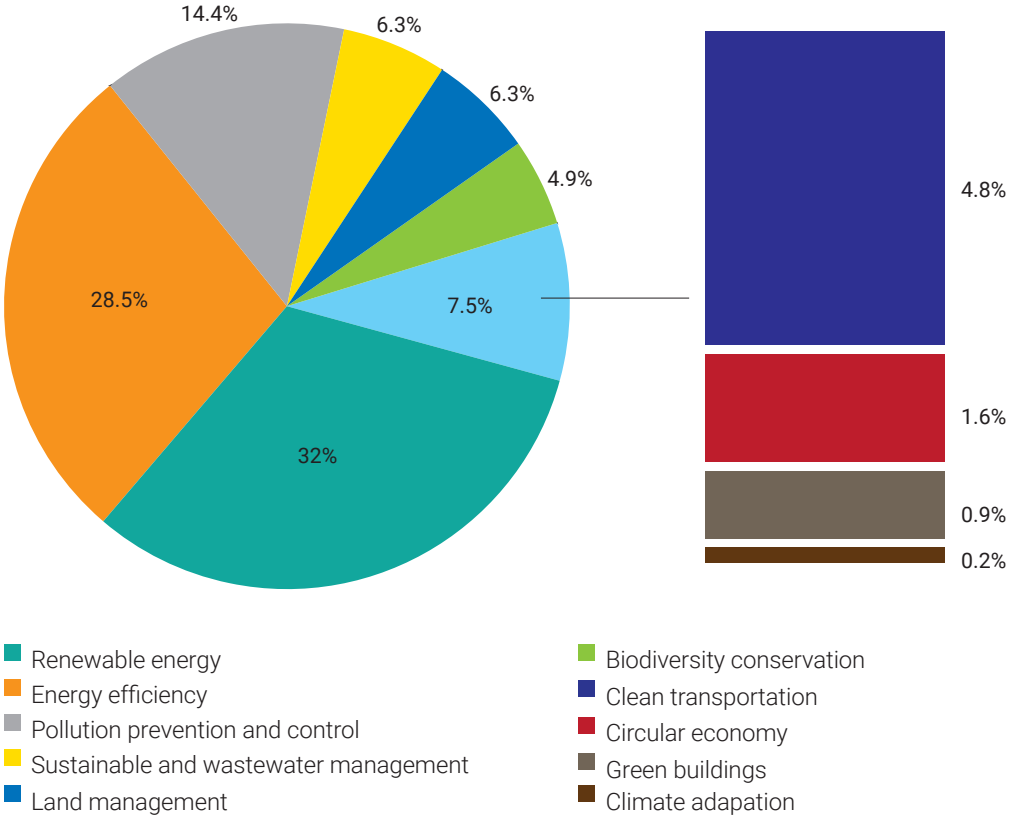
The use of science based targets (SBT) in charting the progress of carbon reduction is becoming a more common practice among leading companies committed to a low-carbon future. Yet out of all the green bonds studied, only one issuer (Swire Properties) adopts SBT, including those certified under Climate Bond Standard.

Chart 5. Disclosure on Environmental & Climate Issues in Asian Green Bonds



Under the scope of this research, renewable energy projects take the largest portion (32.8%) of the fund raised by green bonds, followed by clean transport projects (26.2%). A detailed breakdown of the bonds by project category is shown below. However, the definitions of green projects in Asia are still ambiguous and may have potential risks in the long term. For instance, there are bonds with the size at USD 7.0 billion exposed to fossil fuel related projects, and USD 7.3 billion exposed to large hydro projects (>100 MW).

Chart 6. Use of Proceeds by Project Category in Asian Green Bonds



Reporting on the environmental impacts of green bonds' underlying projects is a recommended measure of different guidelines. The quantification of the projects' environmental benefits can, in particular, be a tool for issuers to demonstrate their contribution, and enable other stakeholders to monitor their performance. The table below presents the two most widely used key performance indicators (KPIs) for selected project types.

Project Type	- Renewable energy - Pollution prevention - Energy efficiency	- Sustainable water and wastewater management	- Waste management and resource efficiency	- Clean transportation
KPI - 1	Annual GHG emissions reduced/avoided (tonnes of CO_2 equivalent)	Annual reduction of chemical oxygen demand (COD)/biochemical oxygen demand (BOD) (tonnes)	Annual waste amount (tonnes) that is prevented, reused or recycled before and after the project	Annual GHG emissions reduced /avoided (tonnes of CO_2 equivalent)
KPI - 2	Annual avoidance of coal usage (tonnes)	Annual absolute (gross) amount of wastewater treated, reused or avoided before and after the project (m^3)	Annual GHG emissions reduced/avoided from waste management project (tonnes of CO_2 equivalent)	Reduction in NO_x (tonnes)

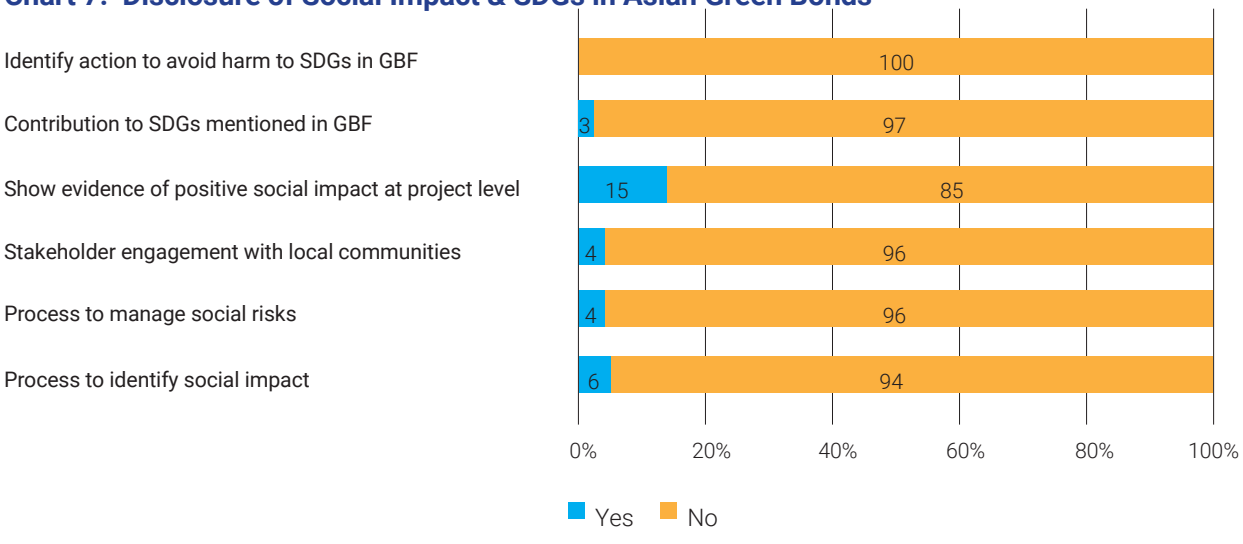
Table 4 KPIs for impact reporting

4.2 Social Impact

Although green bonds do not embed explicit social goals in their design, there is high expectation in the community that they contribute to social well-being, or at the minimum do not contravene the UN Sustainable Development Goals (SDGs). This study revealed that only 6% of issuers adopted a process to identify social impact and 4% embraced a process to manage social risks. Whilst 15% attempted to show some evidence of positive social impact, only 3% mentioned some contributions to SDGs in the green bond frameworks and none has identified any action to prevent negative impact on the SDGs.

For companies which are serious in understanding the social impacts of any project, a broad-based stakeholder engagement process at the community level is of paramount importance. Yet out of all bonds studied only 4% disclosed that some form of community engagement had been conducted for the projects concerned. This calls into question the validity and reliability of the outcome of social impact assessments, if any, undertaken for most of the projects.

Chart 7. Disclosure of Social Impact & SDGs in Asian Green Bonds



4.3 Process Integrity

Under the scope of research (249 bonds), 237 bonds are aligned with the four components of GBP defined by ICMA, and the reasons for the non-alignment of the remaining 12 bonds are mostly due to the incompleteness of the green bond framework and allocation of some or all of the proceeds to general working capital under the regulatory context particular to China. 13 of the bonds certified in accordance with Climate Bonds Initiative Standards. Table 4 shows that India has the largest proportion of certified Climate Bonds (5 out of 8 bonds), followed by ASEAN (2 out of 19 bonds) and China (6 out of 196 bonds). By the end of March 2020, there was no Certified Climate Bond in Malaysia or Indonesia.

Issuer	Issue Date	Country
Bank of China/ London Branch	Jun-18	China
Bank of China/ Tokyo Branch	Nov-18	China
ICBC/ London	Jun-18	China
China Construction Bank/ Lux branch	Sep-18	China
State Bank of India	Jul-18	India
State Bank of India	Sep-18	India
Industrial Bank	Nov-18	China
AC Energy	Jan-19	Philippines
ReNew Power	Mar-19	India
ReNew Power	Sep-19	India
Jiangsu Financial Leasing	Apr-19	China
BTS Group	May-19	Thailand
Energy Absolute	Jul-19	Thailand
Energy Absolute	Aug 19	Thailand
Azure Power	Sep-19	India

Table 5 Certified climate bonds

The integrity of the green bond monitoring process has always been a concern for investors. From the study it is revealed that many issuers failed to publish impact reports on time. Among those who published impact reports, only 39% managed to use quantitative indicators to communicate environmental impacts; barely 26% disclosed their KPI methodology and assumptions.

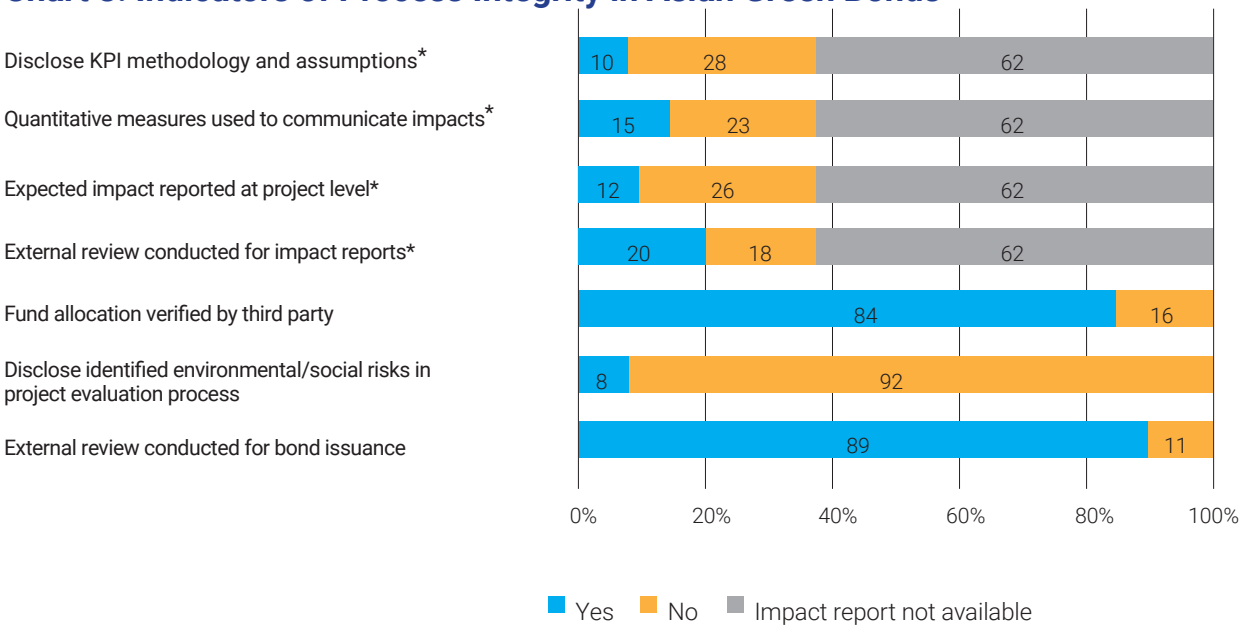
As a measure of the credibility of the green bond monitoring process, it is found that the most commonly adopted practices are the verification of funds by a third party (84%) and external review for the green bond framework of the bond issued (89%). The external review can be a second-party opinion, a green rating or a verification assurance to a standard. Yet only 20% of issuers conducted external reviews for their annual impact reports, a practice that is regarded by many investors as an essential measure to enhance the credibility of claimed contributions.

The quality of external review

External review is one of the recommended practices in GBP, and an increasing number of green bond issuers adopt this practice to demonstrate their alignment with international standards. Even though ICMA has three pages of guidelines for external review of green bonds, the quality of external review provided by different reviewers varies. Some service providers will provide detailed information, including evaluation methodology, major assumptions, implication to the environment, and contribution to SDGs. Others may simply give an opinion on the issuance's compliance with GBP or just the use of proceeds guaranteed. The "flexibility" of deliverables could result from their limited impact on investors and a lack of interpretation by other stakeholders.

In general, it is found that financial institutions overall have better practices in governance, alignment with guidelines and compliance with standards, though they could do better on disclosure of their internal management mechanism to ensure the project level impact is properly tracked.

Chart 8. Indicators of Process Integrity in Asian Green Bonds



* Out of 249 bonds studied, 153 have not issued annual reports or made their annual reports publicly available at the time of analysis (March 2020.)

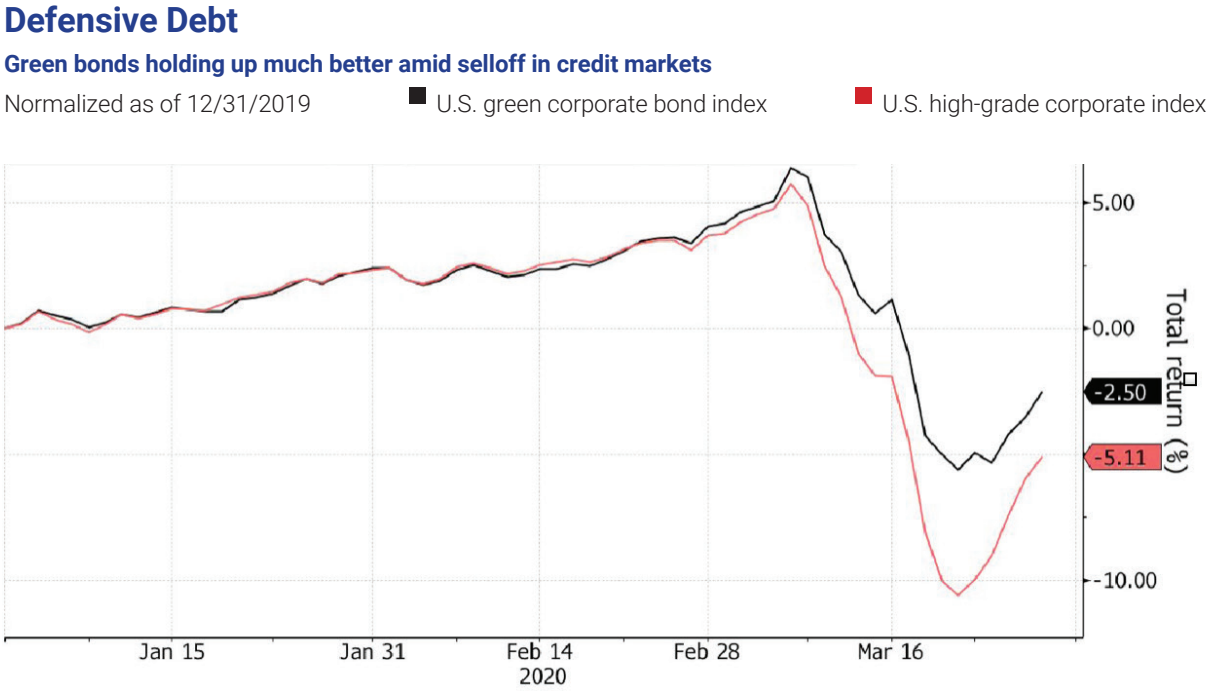
5 The Way Forward

5.1 Conclusions and Recommendations

It is evident from our research that there exists a significant gap between current practice and the expectations of investors and community at large with regard to green bond integrity. Whilst much of the claims of environmental benefits may be valid, the communication of supportive evidence for such claims is patchy at best, or non-existent at worst. With regard to social impacts at the community level, the effort devoted to their assessment and monitoring clearly falls short of public expectation.

Even among mainstream economists there is growing scepticism about the quality of ESG measurement and disclosure in climate finance.[20] At the same time, there is emerging evidence that green bonds are retaining value better than mainstream corporate debt during the Covid-19 pandemic.[21] Over the longer term, green debt may outperform other types of debt instruments intended to support capex investments. This combination of scepticism and enthusiasm presents an unprecedented opportunity for reform.

Chart 9. The Outperformance of the Green Bonds compared to Non-Green Bonds



Source: Bloomberg Barclays

20 Available in "The trouble with climate finance: Green investing has shortcomings" The Economist, 20 June 2020
21 Available in "Implications of the COVID-19 Pandemic for Global Sustainable Finance: An initial framework for response strategies" UNEP Working paper, April 2020

Going forward, a broad stakeholder engagement process with the full range of market players - from regulators, issuers and intermediaries to asset owners and standard-setters – is essential in creating a consensus for progress. The following directions are recommended as a priority for consideration by stakeholders:

- Assessment and disclosure of environmental contributions should be conducted with **quantitative measures**, indicating methodologies used and assumptions made to enable independent verification.
- The use of **best available technology** to maximise environmental benefits and minimize social risks should be encouraged at project level, and where such options are not feasible for technical or financial reasons, there should be a clear explanation behind those decisions.
- Green finance standards of all kinds should include an **effective assessment of the social impacts** of the projects to ensure the project does no harm to the rights and livelihoods of affected communities.
- With the growing recognition of the **UN SDGs**, there should be a mechanism to ensure that all project outcomes are consistent with these goals, and any action that deviates from such goals should be identified and rectified early at project planning stage.
- Green finance standards should include an assessment of the resilience of the project to the effects of climate change, both built into the specific project itself, and in the context of national or regional **climate adaptation** plans and policies.
- **Community engagement** should be undertaken at the planning, implementation and evaluation stage, taking into account social and resilience issues. In particular, the rights and livelihoods of poor and vulnerable communities should be safeguarded with explicit measures if they are affected by project development. Local CSOs, when available, should be included in the engagement process.
- Climate finance and blended green finance projects in support of the Paris Climate Agreement should incorporate **science-based targets** indicating a contribution to holding temperatures below 1.5°C benchmarked against business as usual, or no project.
- There is much value for green bond standards to be clear but concise. The **avoidance of greenwashing** is not just a matter of descending into more and more intricate levels of data gathering and analysis, but also building the capacity to communicate to the public the concepts of green financed projects in a way that is understandable and digestible by the non-specialist.

5.2 Stakeholder Engagement Plan

Based on the findings of the Phase 1 research, stakeholders involved in the green bond process will be engaged to develop a consensus pathway to improve standards and practices in Phase 2 of the project.

With reference to AA1000 Stakeholder Engagement Standards, a preliminary stakeholder engagement plan is to be developed in line with three accountability principles - Inclusivity, Materiality and Responsiveness.

Inclusivity involves the participation of stakeholders in developing and achieving an accountable and strategic response to sustainability. It is also a commitment to be accountable to those on whom this exercise has an impact and who have an impact on it, and to enable their participation in identifying issues and finding solutions.

The principle of inclusivity is necessary for the achievement of the other two accountability principles: materiality and responsiveness. Inclusivity is the starting point for determining materiality. The materiality process determines the most relevant and significant issues for an organisation and its stakeholders, recognising that materiality may be stakeholder specific, i.e., some issues will be material to some stakeholders but not to others. Responsiveness includes the decisions, actions, performance and communications related to those material issues.

In addition to financial sector stakeholders (issuers, arrangers, managing financial institutions, verifiers, investors etc.) Oxfam finds that a number of key stakeholders should be involved in the various stages of green bond preparation, issuance and monitoring. This stakeholder engagement can contribute towards the financial success of the project while also ensuring the environmental and social impacts are achieved for all. Identification of stakeholders will vary somewhat depending on the nature and scale of the funded project, but will generally include:

- Local community leaders (in power and in opposition)
- CSOs and relevant NGOs
- Local government (several departments to avoid jealousy and rivalry)
- Women's groups and equal opportunity organisations
- Education, research and scientific bodies active in the area
- Social and human rights organisations

Stakeholder Engagement Plan – Key Parameters

Owner of Engagement	Oxfam Hong Kong/Oxfam in Asia/Oxfam International
Purpose of Engagement	To improve the practices and standards for the issuance of green bonds and climate bonds, so as to increase its appeal to sustainability-conscious investors and enhance its benefits to the community
Scope of Engagement	• To understand the opportunities and constraints in adopting best practice in governance, transparency and quantification of environmental gains; • To communicate the current gaps and seek consensus on solutions; • To identify measures on how to avoid unintended negative social impacts; • To enhance alignment with UN Sustainable Development Goals; • To compile a **Consensus Pathway** document, based on feedback in stakeholder engagement sessions, as the basis for future development.
Pre-engagement Activities	• To raise awareness by disseminating Phase 1 research findings through multiple channels, including media briefings, press articles and industry events; • To compile a **Consultation Framework** document, based on Phase 1 research findings.

Table 6 Key parameters of stakeholder engagement

Stakeholder Profiling and Mapping

Key stakeholders	Type	Knowledge of Issues	Level of Influence	Capacity to engage	Geographical Scale	Engagement Methods
Government regulators	R	H	H	H	local	I
Stock Exchanges	R	H	H	H	local	I
Standard-setting bodies	R	H	H	H	global-regional	I
Bond issuers	O	H	H	M	local	F
Arranging banks/ institutions	O	H	H	H	local-global	F
Bond buyers – institutional	O	H	H	H	global	Q
Bond buyers – individual	C	L	L	L	local	Q
External reviewers	O	H	M	H	regional	F
Civil society organisations	O	M/L	L	M	local-global	F/Q
Media	O	M	L	M	local-global	I
Community at project locations	C	L	L	L	local	F
Community at large	C	L	L	L	global	Q

Notes: R=Regulatory stakeholders O=Organisational stakeholders C=Community/Consumers
H=High M=Medium L=Low
I=Interviews F=Focus groups Q=Questionnaire surveys

Table 7 Demonstration of stakeholder profiling and mapping

Appendix 1 - Green Bond Evaluation Framework

a. *Use of proceeds*

- Does the green bond framework (GBF) provide an estimate of the amount of use of proceeds allocated to refinancing projects? If yes, what is the percentage dedicated to refinancing?
- Does the GBF describe which projects will be refinanced?
- Does the issuer set an investment exclusion list in the GBF?

b. *Process for project evaluation and selection*

- Does the GBF provide a broader sustainability context (objectives, strategy, policies)?
- Is there a process to identify any potential negative impact on the environment?
- Is there a process to identify any potential negative social impact?
- Are the identified potential risks disclosed?
- Is there a process to manage risks and prevent negative impacts on the environment?
- Is there a process to manage risks and prevent negative social impacts?
- Does the project evaluation process include a stakeholder engagement with local communities?
- Does the GBF provide evidence that the selected projects use the best available technology (BAT)?
- Does the GBF provide evidence that the selected projects pass the additionality test?
- Is there a dedicated governance structure to oversee the bond's lifetime?

c. *Management of proceeds*

- Will the allocation of funds be verified by an auditor or a third-party?
- Does the issuer set restrictions regarding the temporary use and investment of unallocated proceeds?

d. *Reporting (Green Bond annual report)*

- Does the annual report provide an estimate of the use of proceeds allocated to refinancing projects? If yes, what is the percentage dedicated to refinancing?
- Does the annual report provide a description of the projects that were refinanced?
- Does the annual report include a list of the amounts allocated by project?
- Does the annual report include the expected impact of the projects to which the proceeds have been allocated?
- Are quantitative performance measures used to communicate impact?
- Are the methodology and assumptions underlying the KPIs disclosed?
- Does the report include achieved impacts that have been monitored?
- Is the annual report reviewed by an external party?

e. *External review*

- Is the external review of the green bond framework available to the public?
- Is the bond certified by the Climate Bond Initiative?

f. *Impact Assessment*

- What are the quantitative environmental impacts of the projects to which proceeds have been allocated?

g. *SDG Alignment and Climate Actions*

- Does the green bond framework mention any benefit to one or more of the SDGs?
- Does the green bond annual report mention any benefit to one or more of the SDGs?
- Does the green bond framework mention any action taken to avoid harming any SDG?
- Does the annual report provide evidence of positive social impacts achieved by the green bond projects?
- Does the green bond framework mention resilience to climate change?
- Does the annual report mention resilience to climate change?
- Are the green bond projects aligned with climate science or emissions pathways (Science Based Targets)?

Appendix 2 – Selected Case Studies to Illustrate Performance Gaps

Issuer: The China Three Gorges Corp.
Country/Region: China
Total amount issued: CNY 45billlion (USD 6billion)
Performance gap: Environmental and social risks

One of the China Three Gorges Corp. (CTG) green bonds covers four hydropower stations along 600 km of China's Jinsha River. These plants include 6.4-GW Xiangjiaba, 10.2-GW Wudongde, 13.9-GW Xiluodu and 16-GW Baihetan. Several of the green bonds assessed include the financing of large-scale hydropower dams. The 10.2 GW Wudongde dam located in Sichuan/Yunnan on the lower Jinsha River is one of them. Not only is this project now associated with environmental risks such as reservoir-induced landslides and seismic hazards, but its construction led to the displacement of at least 14,200 people which carry social risks such as increased poverty, especially among women.

Issuer: Xinxing Ductile Iron Pipes Co. Ltd
Country/Region: China
Issue size: CNY 1 billion (USD 149 million)
Performance gap: Use of proceeds in fossil fuel

Xinxing's green bond is technically not allowed to be issued according to international standards such as the GBP. This is due to the fact that the firm invests much of its proceeds in construction and upgrade projects for its 40 MW and 65 MW coal gas power plants. The firm even claims that its upgrade projects would increase energy efficiency and contribute to reducing the impact of climate change due to less pollutants and smog produced. According to the Chinese standards for green bonds, these coal plants are considered "green" in Mainland China, which illustrates the regulatory gaps between China and the rest of the world. Xinxing also dedicates 50% of the bond proceeds to working capital that is not required to meet even China's standards.

In terms of environmental benefits disclosure, Xinxing attempted to write up the "significant benefits" of its high-efficiency coal plants to both society and the climate. The firm failed to produce any quantitative data or hard evidence to back up such claims. The third party bond rating report is little help in giving an accurate picture of the environmental impact of Xinxing and just reassures investors that this company is financially sound.

Issuer: Guodian Technology Environmental Protection Group

Country/Region: China

Issue size: CNY 900 million (USD 127 million)

Performance gap: Uncertain use of proceeds and unknown environmental risks

Guodian Technology Environmental Protection Group ("Guodian") claims to be a leader in the environmental sector operating in power generation and construction of renewable energy equipment like wind turbines and solar panels. It also claimed to rank number 70 among the top 500 renewable energy corporations globally in 2018. However, the green bond issued by this company contains multiple problems. Firstly, the company dedicates all bond proceeds to working capital and/or the refinancing of existing green projects. It provides no details or data pertaining to the nature and operation of the projects it is working on and the company also has businesses in asset management, property management, IT consulting and cargo import-export. This violates the core principles of the internationally-recognized GBP as investors cannot judge how much of the bond proceeds have actually flowed into qualified green projects rather than the company's non-environmental operations.

Secondly, investors would naturally expect more sustainability efforts and disclosure from an environmental "leader" such as Guodian. Yet in this green bond issuance, the company fails to disclose any environmental KPIs, past data and projection targets for the work it considers to be its core green businesses. It also fails to list existing green projects and sustainability risks that it faces. The third-party rating report does not disclose anything more valuable regarding the bond proceeds or green projects than the company's own green bond issuance document except for a general overview of the renewable energy business in Mainland China. Although Guodian hired an internationally reputable bond underwriter, UBS, we could not identify anything on this green bond issuance that seems aligned with any international green finance standards.

Appendix 3 – Selected Case Studies to Illustrate Best Practice

Use of proceeds	Process for project evaluation and selection	Management of proceeds	Reporting	Other aspects
Set an exclusion list. Set a GHG emission threshold for a given technology. Disclose percentage or amount allocated to refinanced versus financed projects (portfolio or category level). Disclose the list of projects that will be refinanced versus financed (project level).	An environment or sustainability professional/expert holds a veto during the bond selection process. There is an environmental impact assessment and a social impact assessment. Organize stakeholder engagement with local communities.	Unallocated money cannot be invested in fossil-fuel related activities. Allocation of funds are verified by a third-party/auditor.	Estimate of refinancing vs financing is provided (portfolio/category level). Estimate of refinancing vs financing is provided (project level). Methodology and assumptions underlying the KPIs are disclosed.	Social benefits of green projects are mentioned. Social benefits of green projects are quantified. Climate resilience is mentioned. Benefits of the green projects to SDGs are mentioned.

Table 8 List of best practices identified

Issuer: Greenko Group

Country/Region: India

Issue size: USD 1.04 million

Best practice: Engagement with local communities

Greenko Group develops and operates clean energy projects in India. Greenko has a vision of "Powering India with decarbonized, digitized & decentralized energy assets" and aims at contributing to environmental and social impact in local communities. To achieve this objective, Greenko claims they generate clean energy while implementing community programmes. Under the second pillar of the GBP, "Process for Evaluation and Selection", Greenko checks the commercial feasibility of the green projects as well as their alignment with Greenko's Internal Environmental and Social Risk Assessment Process. This means that all eligible wind and solar projects undergo a voluntary Environmental and Social Impact Assessment to evaluate their environmental and social risk based on the IFC's Performance Standards (2012). In addition, projects undergo a voluntary stakeholder consultation to engage local communities, which is implemented by Greenko and must conclude that there is negligible environmental or social disruption.

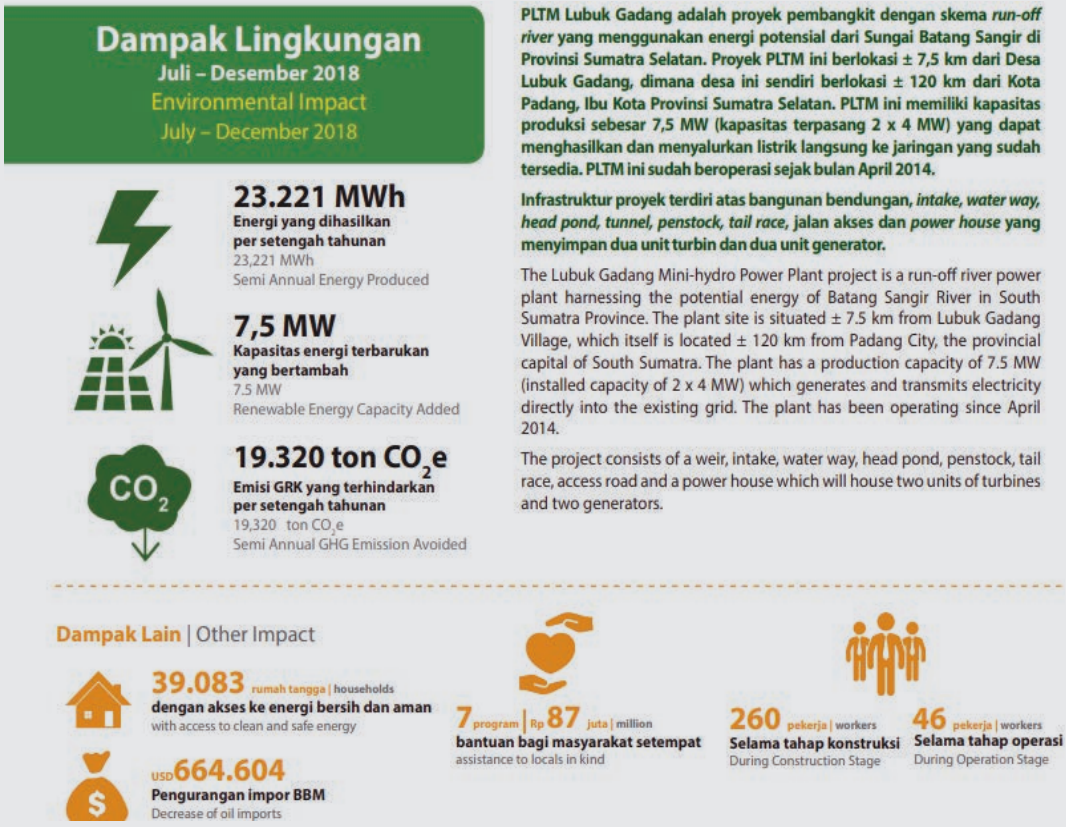
Issuer: PT Sarana Multi Infrastruktur (Persero) ("PT SMI")

Country/Region: Indonesia

Issue size: USD 1.25 billion

Best Practice: Comprehensive annual report

PT SMI issued their first green bond annual report in June 2019, responding to their first green bond issuance in March 2018. The report demonstrates their holistic green bond management approach, including the 1) display of the actual project selection and evaluation process; 2) infographic presentation of the proceeds allocation and project impact in both environmental and social aspects for each funded project (shown as the graph below); 3) disclosure of the impact reporting approach and quantification methodology; and 4) disclosure of external review in annual report and profile of the external reviewer.



(Source: PT SMI Green Bond Report 2019, available in https://ptsmi.co.id/wp-content/uploads/2020/03/Green-Bond-Report-PT-SMI-2019.pdf)

Issuer: Swire Properties
Country/Region: Hong Kong
Issue size: USD 500 million
Best practice: Disclosure of climate adaptation and resilience

This case study shows a property developer taking into account adaptation and resilience to climate change. The use of proceeds can be used, among others, for "Projects relating to Climate Change Adaptation, such as projects for the design, construction, maintenance and upgrades of buildings / assets for adapting to more frequent and extreme weather events caused by climate change (for example, projects for the upgrade of flood defence or storm water management systems)"

Issuer: Fuzhou Water Investment and Development
Country/Region: China
Issue size: CNY 500 million (USD 73 million)
Best practice: Environmental risk management and quantified KPIs

This water investment company conducted a thorough sustainability assessment for its green bond. The company hired a reputable third party green auditor to evaluate its green projects. The evaluation report provided extensive written and visual details of the green projects, namely the construction of water diversion and water supply facilities in the city of Fuzhou. The company established environmental KPIs including yearly water supply targets. Most valuable of all, the disclosures elaborated the various environmental risks (e.g. water pollution, noise pollution, solid wastes, and exhaust gas) and the impact of these on the company's operations. Furthermore, the report detailed the solutions to combat these environmental hazards in order to preserve as much of the natural environment as possible amidst the construction. The Fuzhou Water Investment and Development has not only succeeded in enacting environmental controls and comprehensive risk management procedures but also made great efforts in green bond disclosure compared to many other green bonds that were reviewed.

Issuer: China Jushi Co.

Country/Region: China

Issue size: CNY 200 million (USD 31 million)

Best practice: Disclosure on best available technology

China Jushi's 200 million RMB green bond supports the construction of its 120,000 tonne-per annum fibreglass production factory. As one of China's leading fibreglass producers, China Jushi claims that it utilizes the most advanced fibreglass production technology in the world, namely pure oxygen or oxygen-enriched air combustion. This modern technology is superior to the traditional crucible melting method in terms of attaining more automation, better safety, higher energy efficiency, and reduced carbon dioxide and nitrogen oxide emissions, according to the company's information. The firm obtained a national patent by using air-supporting combustors to reinforce oxygen combustion within the fibreglass tank furnaces. The patent information of their technology can be found in https://patents.google.com/patent/CN201923949U/en. Their green bond framework states that pure oxygen combustion can reduce up to 80% of pollutants and 99% of NO_x emissions as well as achieving energy saving of almost 30%. China Jushi's decision to use the green bond proceeds to invest in the advanced technology may set an example of best practice in the industry. Its peers may be under pressure to follow suit, hence spurring healthy growth for the industry.