FINDING GOLD IN ALL THAT GLITTERS – EXPLORING SUSTAINABILITY BONDS IN ASIA PACIFIC REGION

White Paper

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CONTENTS

EXECUTIVE SUMMARY

Green, social, and sustainability bonds in the Asia-Pacific market jointly reached USD 187 billion in 2019 and are expected to grow further. For sustainability-conscious international investors, there are two key challenges: the misalignment of expectation and standard-setting, and the expectation gap between the issuers' use of proceeds and the quantifiable sustainability benefits achieved. Hence a meticulous assessment is needed in navigating these challenges.

HIGHLIGHTS

As of December 31, 2019:

- Within our universe of green, social, and sustainability bonds, China market made up 58.3% of the total amount outstanding
- Our filtering process reduced the China market exposure from USD 109 billion to USD 37.2 billion
- The Solactive CarbonCare Asia Sustainability Bond Index generated an annualized total return of 1.42% measured in USD over the past two years

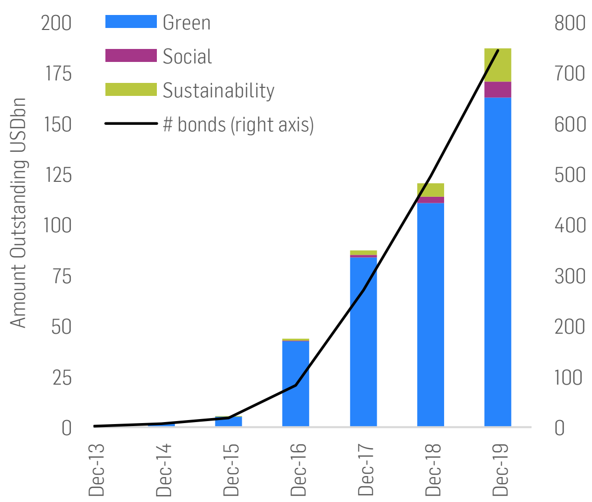
INTRODUCTION

Green bonds are a category of fixed-income securities, whose proceeds are used to finance or refinance projects with environmental benefits such as renewable energy, low-carbon buildings or low-carbon transport. Social bonds aim at delivering positive social outcomes such as affordable housing, basic infrastructure, and employment for an identified target population such as marginalized groups, people living below the poverty line or people with disabilities. Sustainability bonds are used to finance or refinance both environmental and social projects. Green, social, and sustainability bonds together still make up a small fraction of the overall world bond market but reached a record high of USD 323 billion in 2019 *[Reference 1]*.

In the Asia-Pacific market, the three categories of bonds jointly reached USD 187 billion in 2019 with green bonds comprising the bulk of issues and stood at USD 163 billion as of December 31, 2019 *[Exhibit 1]*. The social and sustainability bonds also witnessed strong growth valued at USD 7.9 billion and USD 16.3 billion respectively as of December 31, 2019.

The Asia-Pacific green, social and sustainability bond market is expected to keep growing because the financing needs to support the sustainable development of Asian economies are substantial. It has also been estimated that ASEAN markets will need around USD 200 billion in green investment annually until 2030 *[Reference 2]*. Against this backdrop, we intend to provide a historical overview of the green, social and sustainable bond market in the Asia-Pacific region. We then present the challenges faced by sustainability-conscious international investors and solutions that may be helpful in navigating those challenges.

Exhibit 1: Amount Outstanding of Green, Social, and Sustainability Bonds in the Asia Pacific Market



Source: Carbon Care Asia, Climate Bonds Initiative, Environmental Finance Bond Database. Data from December 31, 2013 to December 31, 2019. This chart is provided for illustrative purposes.

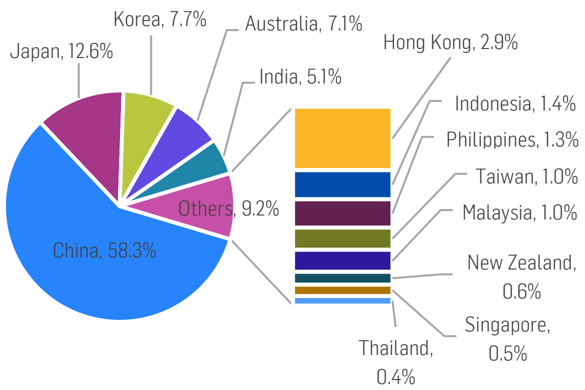
UNIVERSE

We formed the universe by taking all the self-labeled green, social, and sustainability bonds issued by corporates and sovereigns in the markets located in the Asia-Pacific region. Asset-backed securities, mortgage-backed securities and other structured securities were excluded to create a homogenous universe. No further restrictions regarding issue date, maturity date or amount size were applied.

We observed that in our bond universe, the China market made up 58.3% of the total amount outstanding as of December 31, 2019 *[Exhibit 2]*. This finding was not surprising, given that China was the world's second-biggest issuer of green bonds in 2019 *[Reference 3]*.

Japan, Korea, Australia and India were among the other most represented markets in our universe. The ASEAN markets generally consisted of smaller bond sizes and, therefore, their contribution was also small.

Exhibit 2: Distribution of Amount Outstanding by Market of Risk



Source: Carbon Care Asia, Climate Bonds Initiative, Environmental Finance Bond Database. Data as of December 31, 2019. This chart is provided for illustrative purposes.

CURRENT CHALLENGES

Investment needed for infrastructure and development in the Asia Pacific region represents large sums of money well beyond the capacity of the public sector alone. The region, therefore, needs to attract large amounts of private capital, including from outside of the area. In order to tap into international sustainable capital markets, issuers must cater to the needs and demands of the sustainability-conscious international investors.

Presently there are misalignments between sustainability-conscious international investors' expectations and sustainability standards.

The following examples are helpful to elaborate.

- Lack of clarity : According to the G20 Leaders' Summit in Hangzhou in 2016, the green finance market is hampered by a "lack of clarity in green definitions" *[Reference 4]*. For example, the classification of "clean coal" as an eligible green project under the People's Bank of China (PBOC)'s green bond catalogue.
- Use of proceeds : Following the International Capital Market Association (ICMA)'s guidelines, all the bond's proceeds should be exclusively used for green or social projects *[Reference 5]*. However, issuers of Chinese bonds under the rules of the National Development and Reform Commission (NDRC) are allowed to use up to 50% of funds raised to repay bank loans or supplement working capital.

Furthermore, there are also expectation gaps between bond issuers who prefer a more lenient approach and impact investors who demand quantifiable sustainability benefits.

These misalignments and expectation gaps could have been factors hampering the growth rate of the participation of sustainability-conscious international investors in the Asia market. To resolve this conflict, a meticulous assessment is needed to identify bonds with a higher level of integrity, transparency, and governance.

ESG METHODOLOGY

We applied two levels of filters to ensure quality disclosure and positive environmental and social outcomes.

The first level of filter looks at alignment with international standards and issuance practices that are expected by sustainability-conscious investors. The ICMA green, social, and sustainability principles are used as the reference guidelines to set the minimum requirement. The process consists of four steps:

- Step A : Bonds are discarded if they do not disclose information regarding the four ICMA core principles – namely: use of proceeds; process for project evaluation and selection; management of proceeds; and reporting. This method ensures a minimum level of transparency.
- Step B : Bonds are excluded if they do not include an external review (such as a green rating, a second-party opinion, an assurance or a verification document). This step ensures the veracity of the claims made in the bond's framework.
- Step C : Bonds that do not allocate one hundred percent of proceeds to green, social or sustainability projects are discarded. This step means no proceeds can be used for working capital.
- Step D : Bonds that do not provide any quantitative impact measure in their annual bond report are set aside. The use of quantitative impact measures such as carbon emissions avoided, water savings or waste reduced for a green bond, or the number of people who benefit from social housing or employment for a social bond, are essential if investors are to be informed of the positive outcomes achieved by the bond.

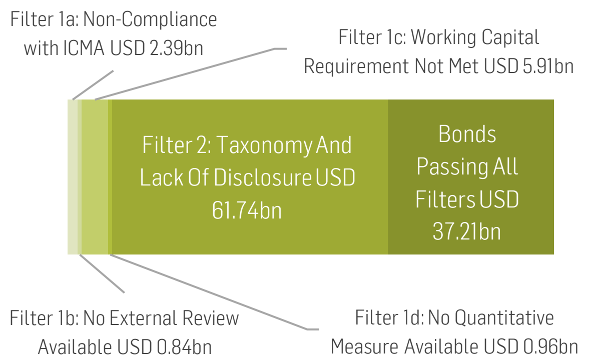
The second level of filter discards bonds that use proceeds for projects stated on CCA's proprietary exclusion list or bonds that do not disclose sufficient information to ensure that the projects won't have a negative impact. The exclusion list aims at projects with negative environmental or social outcomes such as fossil fuel use or large-scale hydropower projects. Because of the discrepancies between the various existing taxonomies, CCA has created a unique exclusion list by identifying the best practices across international standards *[Reference 6,7,8,9]*.

IMPACT ON CHINA MARKET

Bonds from the Chinese market were most affected by the filters applied. Chinese bonds using proceeds for projects linked to fossil fuel use or allocating proceeds to broad categories such as "Pollution prevention and control" with little further detail were excluded from the universe. This level of disclosure is indeed insufficient to assess whether it will involve controversial projects. As a result, Chinese bonds amounting to USD 61.7 billion were filtered out because of their use of proceeds or lack of disclosure regarding the use of proceeds *[Exhibit 3]*.

In addition, USD 5.9 billion of Chinese green bonds were excluded from the universe because they did not commit one hundred percent of the use of proceeds to green or social projects.

Exhibit 3: Amount Outstanding at Various Stages of the Filtering Process in the Chinese Market



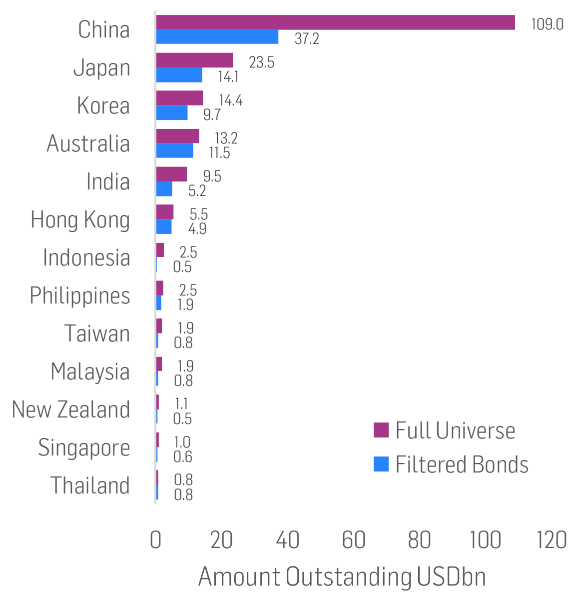
Source: Carbon Care Asia Climate Bonds Initiative, Environmental Finance Bond Database. Data as of December 31, 2019. This chart is provided for illustrative purposes.

COMPARISON WITH FULL UNIVERSE

The main impact of the filters was the exclusion of a large number of bonds from China market that were not in alignment with international standards. As a result, the amount outstanding of the Chinese green, social and sustainability bonds was reduced from USD 109 billion to USD 37.2 billion *[Exhibit 4]*.

Diligent use of filters also led to significant changes in currency exposure. Before applying filters, 43% of the universe was denominated in CNY and 27% in USD against 14% CNY and 39% USD after filters *[Exhibit 6]*. However, the filtering process had only a minor impact on other characteristics of the universe, such as the maturity profile *[Exhibit 8]*.

Exhibit 4: Amount Outstanding Before and After the Filtering by Market of Risk

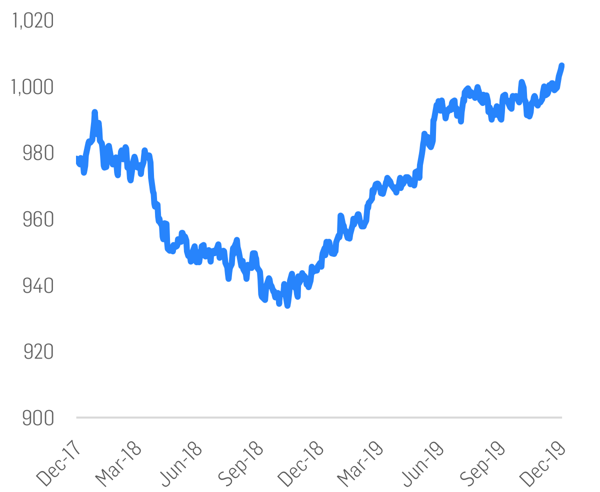


Source: Carbon Care Asia, Climate Bonds Initiative, Environmental Finance Bond Database. Data as of December 31, 2019. This chart is provided for illustrative purposes.

SUSTAINABILITY INDEX

Solactive and Carbon Care Asia jointly developed the Sustainability Bond Index as a barometer of green, social, and sustainability markets in the Asia Pacific region. The index is a total return market-value weighted index. It consists of bonds that pass the two-level filtering process, as described in the section on ESG methodology. The bonds should also reach a minimum size to avoid smaller bonds, which may have higher spreads and lower tradability *[Reference 10]*. The index is rebalanced at the end of each month. At each quarter end, all bonds are re-assessed. During other months, new issues are evaluated. Over the past two years ending December 31, 2019, the index generated an annualized total return of 1.42% measured in USD.

Exhibit 5: Historical Performance of Solactive CarbonCare Asia Sustainability Bond Index



Source: Solactive, CarbonCare Asia, Climate Bonds Initiative, Environmental Finance Bond Database, Intercontinental Exchange. Data from December 29, 2017 to December 31, 2019. This chart is provided for illustrative purposes. Past performance is not a guarantee of future results.

CONCLUSION

In this research paper, we studied the green, social, and sustainability Bonds in the Asia- Pacific market. These reached USD 187 billion in 2019 with green bonds comprising the bulk of issues. We observed that the Chinese market made up 58.3% of the total amount outstanding in our bond universe as of December 31, 2019.

We highlighted two challenges in the sustainability market. The first was the misalignments between investors' expectations and sustainability standard settings. The second was the expectation gap between bond issuers who prefer a more lenient approach and impact investors who demand quantifiable sustainability benefits.

To navigate these challenges, we presented a two-level filtering process. The first filter focused on alignment with international standards and the second filter focused on the use of proceeds along with their disclosures.

As a result, Chinese bonds amounting to USD 71.8 billion did not pass the filtering process. Before applying filters, 43% of the universe was denominated in CNY and 27% in USD against 14% CNY and 39% USD after filters.

With the green, social, and sustainability market poised to grow, Solactive Carbon Care Asia jointly developed a Sustainability Bond Index for the Asia-Pacific market as a reference for the wider investment community.

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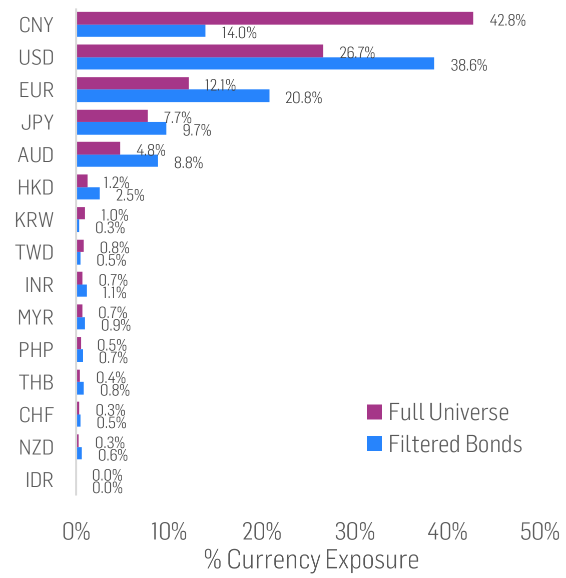
[10] Solactive CarbonCare Asia Sustainability Bond Index Guideline

https://www.solactive.com/indices/?index=DE000SLA9ST6

APPENDIX

The filtering process excluded bonds that did not align with international standards. As a result, the proportion of CNY-denominated bonds decreased significantly, while USD- and EUR-denominated bonds became the majority.

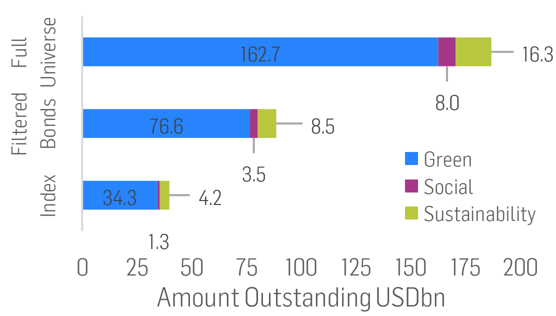
Exhibit 6: Currency Exposure Before and After the Filtering



Source: CarbonCare Asia, Climate Bonds Initiative, Environmental Finance Bond Database. Data as of December 31, 2019. This chart is provided for illustrative purposes.

The green bonds remained dominant after the filtering and index construction processes. The contribution of sustainability bonds slightly increased from the initial 8.7% of the universe to 10.6% in the index, while the social bonds went down from 4.3% to 3.2%.

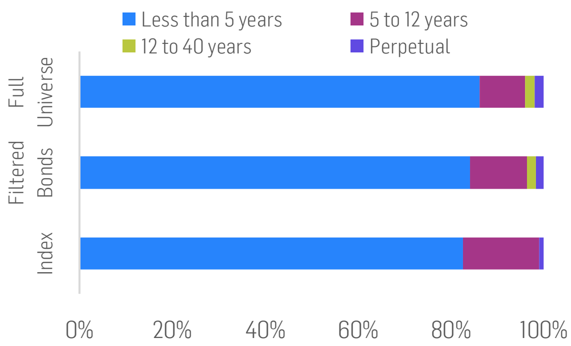
Exhibit 7: Amount Outstanding of Green, Social, and Sustainability Bonds in the Asia Pacific Market



Source: Solactive, Carbon Care Asia, Climate Bonds Initiative, Environmental Finance Bond Database. Data as of December 31, 2019. This chart is provided for illustrative purposes.

The portion of bonds with maturity longer than 12 years declined from 4.0% of the full universe to 1.0% of the index. In the index, 82.7% of bonds mature within 5 years, and 16.3% carry a maturity between 5 and 12 years.

Exhibit 8: Maturity Profile of The Bonds in the Index



Source: Solactive, Carbon Care Asia, Climate Bonds Initiative, Environmental Finance Bond Database, Intercontinental Exchange. Data as of December 31, 2019. This chart is provided for illustrative purposes.

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