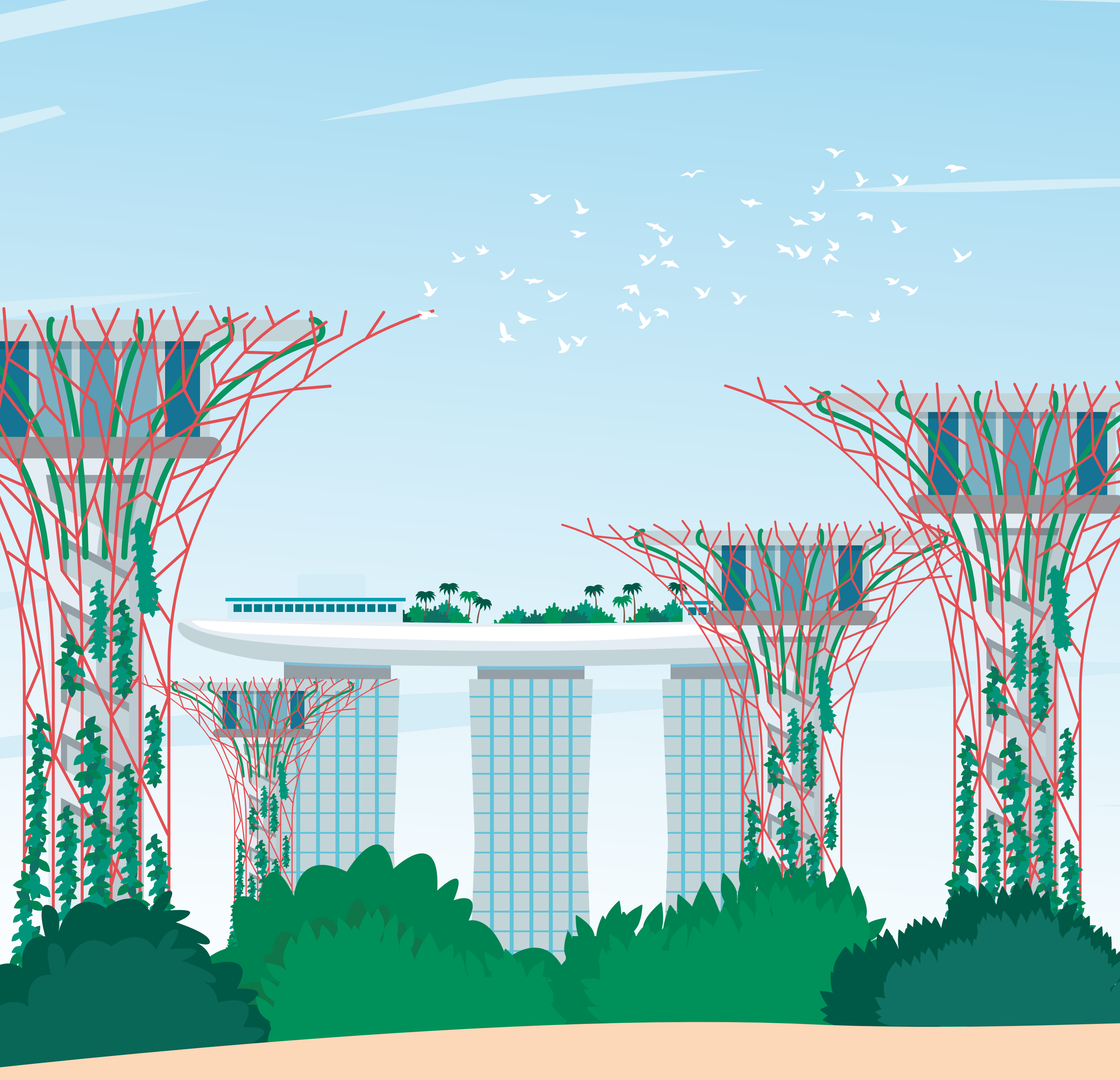
For professional investors – Marketing communication – May 2022

SUSTAINABLE ASIAN CITIES
PREPARING NOW FOR THE FUTURE



BNP PARIBAS
ASSET MANAGEMENT

The sustainable investor for a changing world

CONTENTS

ON THE COVER: The cover illustration depicts the solar-powered "supertrees" in Gardens by the Bay, Singapore's 250-acre green development.
Sustainable design principles and innovative engineering drove the development of two of the world's largest conditioned public conservatories or biomes.
Located within waterfront gardens, the biomes are the centrepiece of a development seeking to define Singapore as the world's premier tropical garden city.

EXECUTIVE SUMMARY

- BNP Paribas Asset Management sees the need to improve the sustainability of Asian cities as urgent and topical. That is why we are launching an investment strategy that targets issuers with activities that can help Asian cities, as they continue to grow, achieve the sustainable change they need as they face the challenges posed by migration and climate change.
- This theme is centred on five topics: Enhanced urban mobility, infrastructure improvement, promotion of integrated development, improvement of health and educational facilities, and investing in innovative technological solutions that support the other four elements.
- To achieve this, our Sustainable Asian Cities (SAC) Bond strategy is designed to invest in a mixture of green, social, sustainability (GSS), and sustainability-linked bonds (collectively known as sustainable-labelled bonds) as well as conventional bonds from issuers who derive at least 20% of their revenues from this theme.
- This strategy will showcase BNPP AM's strong sustainability credentials as expressed via our proprietary thematic bond assessment framework, our Responsible Business Conduct policy and our proprietary environmental, social and governance (ESG) scoring system.
- Furthermore, we believe this investment strategy allows investors to tap into the growing green premium ('greenium') of GSS bonds in Asia. Research by BNPP AM's Quantitative Research Group has demonstrated the existence of the greenium in GSS bonds.
- Finally, we believe spread widening in Asian high-yield (HY) bonds provides investors with an attractive entry point, especially since we believe we are now at an inflection point after the explicitly dovish policy tone from Beijing in recent weeks. Furthermore, emerging market (EM) debt valuations look compelling now. This is one of the few fixed income asset classes providing good entry points in the middle of the US Federal Reserve's policy tightening cycle as spreads are high compared to other fixed income asset classes.

THE NEED FOR CITIES IN ASIA TO BE MORE SUSTAINABLE

Compared to developed markets (DM), the urbanisation theme is more prevalent in emerging markets (EM). The impact of Covid-19 has forced the developed world to reassess the pace of urbanisation, and may have even triggered some gradual de-urbanisation due to the prevalence of remote working and the reassessment of the work/life balance. By contrast, the pace of urbanisation in EM remains strong, particularly in Asia. This has made the sustainability of cities in the region even more of a challenge. We believe there is an attractive opportunity for investors to address this issue.

Asia is home to more than 4.5 billion people[1] (about 58% of the world's population), and is the largest and fastest growing economic region in the world. With their vast populations, Asia's urban centres are some of the world's densest. It is expected that by 2050, an additional 1.2 billion people will live in Asian cities, and the region will account for more than half of the world's urban population.[2] Considering the projected human and economic impact from this growth trajectory, the current available infrastructure will be insufficient to support these urban centres. Add to that the physical impact of climate change (e.g., increased intensity of flooding) and the need for Asia cities to achieve more sustainable change has never been more urgent.

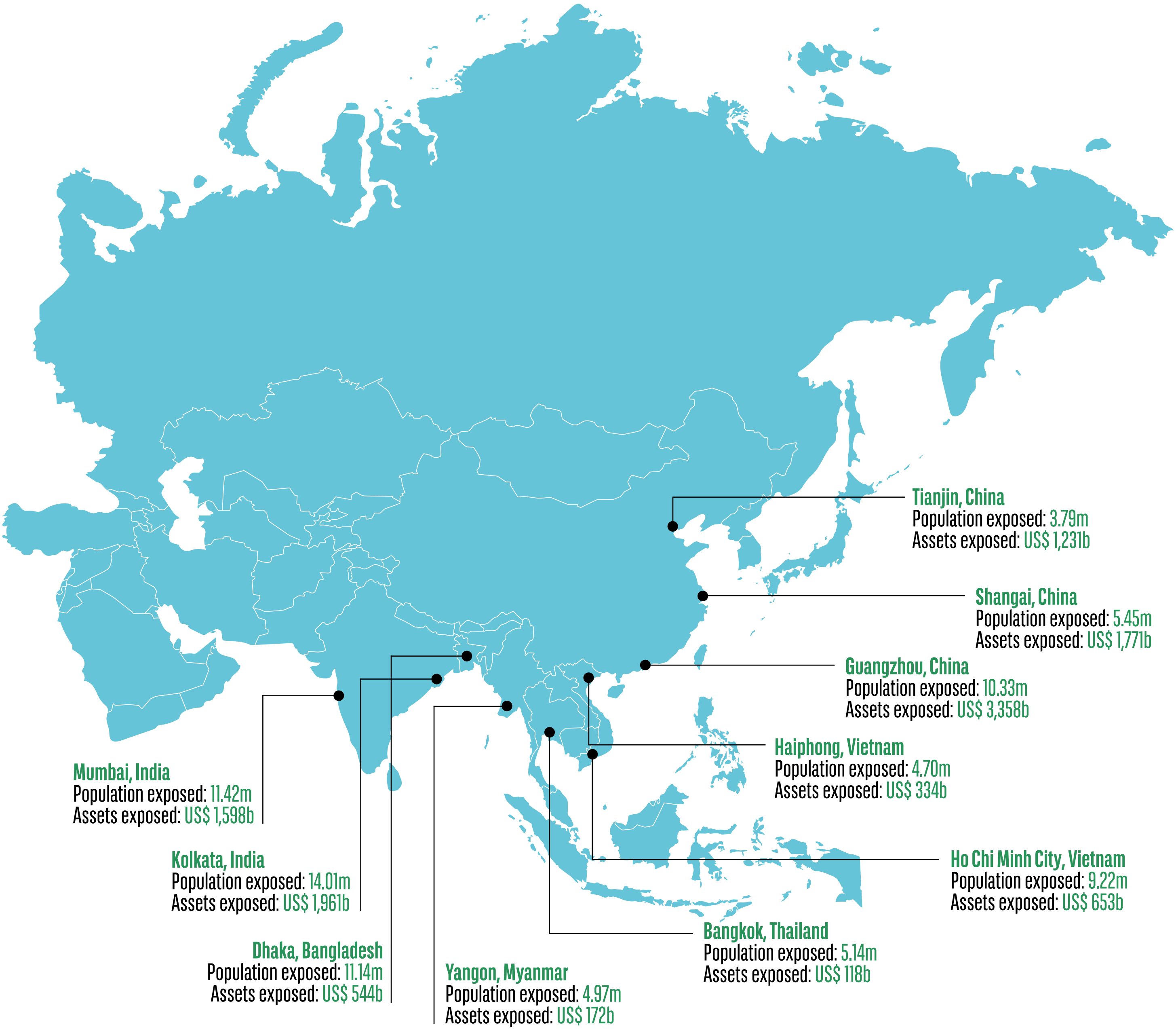
Urgent sustainable change required in Asia

The unprecedented pace at which Asia has been urbanising has been largely driven by migration from rural areas to towns and cities by people seeking a better quality of life and greater economic opportunities. While Asia's growth prospects are clear, climate change and natural disasters have hit the region hard. The situation may worsen if no action is taken.

According to research by the Rockefeller Foundation and the United Nations[3], a third of the natural disasters of the last three decades globally has occurred in Asia, with many coastal cities expected to be the most impacted by rising sea levels due to global warming. This finding is supported by an article published by CNBC in September 2021, which highlights the top 10 Asian cities most threatened by climate change-related flooding and its impact on both the population and economic assets.

1 *World Population Prospects 2019: Highlights*; United Nations Department of Economic and Social Affairs, Population Division.
2 United Nations. 2014. "World Urbanization Prospects".
3 Asian Cities Climate Change Resilience Network of the Rockefeller Foundation, and United Nations. *Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia*, Asian Infrastructure Investment Bank, December 2018.

Exhibit 1: The 10 Asian cities most threatened by climate change related flooding



Source: CNBC, 20 September 2021. Data projected by 2070. Map of Asia graphic from Wikimedia Commons (File:BlankMap-Asia.png).

Upgrading current infrastructure is essential to ensure that cities in the region remain efficient and competitive, and more resilient to the physical impact of climate change. Apart from economic considerations, Asian cities will need to be upgraded to ensure that they remain habitable. According to studies[4], there is a significant proportion of sub-standard urban housing in Asia requiring redevelopment. For example, based on data collected from Bangladesh, Pakistan, the Philippines, India, China and Indonesia, sub-standard housing as a proportion of total urban housing ranges from 23% to 62%. Apart from poor quality housing, a significant proportion of Asian cities residents are plagued by inadequate access to clean water, sanitation and power, and suffer from traffic congestion and air or water pollution. Such problems are typically due to inadequate government funding, little access to pools of capital financing, and poor planning and management of local administrations.[5]

Sizeable investments are required to drive the transition of Asian cities to ones that are more environmentally sustainable, focused on low carbon, and more inclusive. According to studies by the McKinsey Global Institute[5], Asia's urban infrastructure need is projected to exceed USD 1 trillion by 2050, up 7% per annum from 2017. Additionally, due to the inadequate access to clean water in some parts of Asia, the water market in the region is expected to grow by over 4% a year in the near term.[6]

In summary, Asian cities will need to become more resilient to the negative impact of climate change and environmental degradation. They need sustainable infrastructure, improved transportation systems, and air pollution control. They need to provide for basic needs such as access to water and sanitation, and affordable quality housing. This is to ensure that these urban centres can thrive for many years to come.

Growing awareness of sustainable change; more market development and regulatory support expected

In support of our call for more sustainable change in Asia, we have begun to see governments and financial markets taking action, with a growing commitment to addressing climate change and broader sustainability issues. In September 2020, President Xi Jinping pledged that China would aim to be carbon neutral by 2060.[7] This commitment was followed by the leaders of Japan and South Korea pledging to target net zero emissions by 2050.[8] Additionally, in the lead-up to the 2021 UN Climate Change Conference (COP 26), further Asian countries committed to net zero, including Indonesia, Thailand and India.

4 Turner and Townsend; Gardiner and Theobald 2011; AECOM; Eurostat; UN Stats; McKinsey Global Institute Cityscope database; US Department of Housing and Urban Development; Global Construction 2025 report; Mexico Chamber of Commerce; McKinsey Global Institute analysis. Based on 2009 data (latest available) except for India (based on 2012 data).

5 Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia, Asian Infrastructure Investment Bank, December 2018.

6 GWI. Consultant's analysis. Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia, Asian Infrastructure Investment Bank, December 2018.

7 China's Pledge to Be Carbon Neutral by 2060: What It Means, The New York Times, published 23 September 2020.

8 South Korea joins Japan in making 2050 carbon-neutral pledge, Nikkei Asia, published 28 October 2020.

From a regulatory perspective, we are seeing central banks placing increasing importance on sustainability and ESG (environmental, social, and governance) investing. This is supported by the creation of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) in December 2017. This network now includes a number of Asian central banks. Its main mission is to help strengthening the global response required to meet the goals of the Paris Agreement and to enhance the role of the financial system in managing risks and mobilising capital for green and low-carbon investment.[9] Asian central banks such as the Monetary Authority of Singapore and the Hong Kong Monetary Authority have launched sustainable investment initiatives and/or made sustainable investments a priority[10] in recent years.

In our view, recent market and regulatory developments in support of sustainable investment will have a profound impact on financial markets:

- **Stronger regulatory push for ESG disclosure**: Given the trend in the market, we expect central banks/regulators to push for more disclosure from corporates on ESG impacts on their business. This will likely push more companies to issue more sustainability/sustainability-linked bonds. We expect issuers to adapt to this regime change to remain relevant. In addition, we believe greater ESG integration will reduce the susceptibility of issuers to negative ESG impacts.

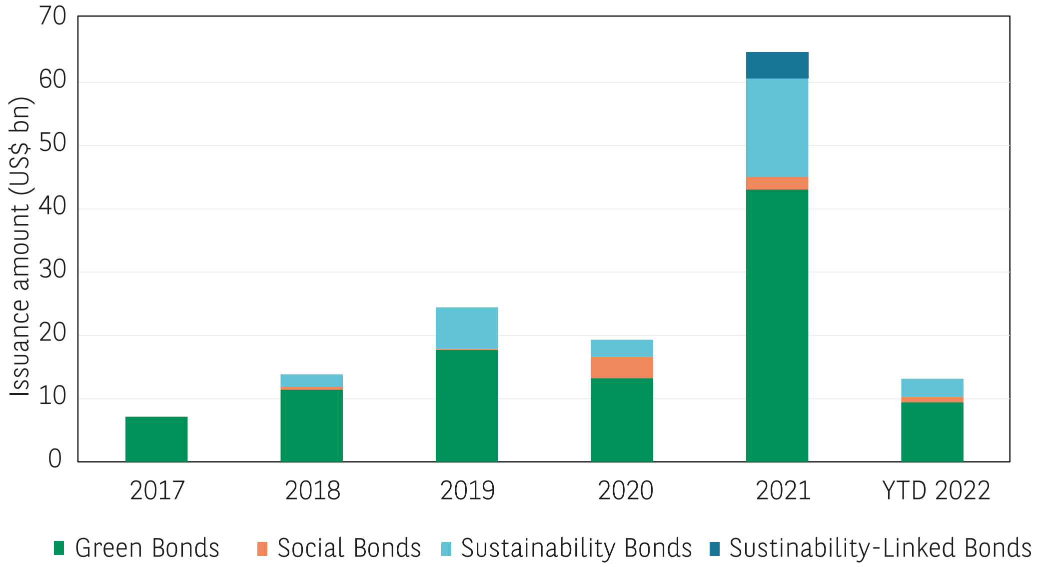
- **Towards more ESG-focused financing**: We see central banks and regulators paying more attention to managing risks and mobilising capital for green and low-carbon investment. Banks and financial institutions may be asked to test their loan books' resilience to climate change. We see the possibility of banks and financial institutions adjusting their lending practices. This could prioritise borrowers who are better at managing ESG-related risks – this is likely to have a trickle-down effect to the rest of the economy.

- **Improving and converging standards in ESG investing**: We have been seeing ESG-related standards in different countries converging towards the international level. For example, while the market generally perceives China's green bond standards to be more relaxed than international ones, the country is slowly moving in the right direction,[11] which would expand the investment universe.

Adding to the market development perspective, we have been seeing a significant proliferation in 'green financing' in Asia, particularly in the form of sustainable-labelled bonds (green, social, and sustainability (GSS) bonds) and sustainability-linked bonds. While such bonds have been available for some time in more mature and developed markets in Europe, they are relatively new in Asia. That said, the market for these bonds has grown over the past five years, with total USD issuance in Asia reaching more than USD 60 billion in 2021. We expect this segment to continue to grow, given the increasing demand from investors and greater regulatory support.

9 NGFS website, Origin and Purpose | Banque de France (ngfs.net).
10 Greening the Financial System website, https://www.mas.gov.sg/who-we-are/annual-reports/annual-report-2019-2020/greening-the-financial-system, Monetary Authority of Singapore. HKMA will stay the course on ESG investments as returns improve over past two years, CEO Eddie Yue says, South China Morning Post, published 5 June 2021.
11 *China's green bond catalogue ousts coal to draw global investors*, Bloomberg Intelligence, 29 April 2021.

Exhibit 2: Issuance of Asia USD GSS and sustainability-linked bonds (in USD billions)



Source: Bloomberg. YTD 2022 as of 6 April 2022

Participating and investing in sustainable change for Asia cities – Now rather than later

Now that we have established the investment case for investing in a greener and more sustainable future for Asia cities, we come to the central question: How should investors participate in this emerging and fast-growing theme?

In our view, the need for capital in Asia to make cities more sustainable is secular rather than a passing fad. We believe that approaching this theme from a fixed income point of view makes sense as there is a direct link with the capital. Infrastructure projects in Asia are generally capital intensive, and usually require more than one round of cash injections. This fits with the nature of fixed income: Bonds are typically issued in multiple rounds, as compared to equity financing. We see this as a long-term opportunity, marked by sufficient demand, and most importantly, continued growth.

What makes this segment attractive over the long term is the focus on sustainable-labelled bonds and the associated green premium or 'greenium' that investors can earn from holding GSS bonds marked at a higher price compared to conventional bonds by the same issuer. In more mature GSS bond markets such as Europe, there is evidence of a greenium associated with holding sustainable-labelled bonds. We believe that greenium development is still in the early stages in Asia. We expect it to mature over time, benefiting early adopters/investors of GSS bonds who will be well-placed to harvest such premiums rather than being late to the game and missing this source of returns when green bond investing becomes the norm. We will explore the topic of a greenium in a later section.

More generally, investor optimism about the segment is reflected in a steady outperformance of ESG assets over the broader indices across asset classes. Looking at GSS bonds specifically in emerging markets, the IMF estimates that since 2019 – the period in which more than half of EM GSS bonds were issued – they have returned 2.8 percentage points more in terms of average annualised return than the corresponding broad index. Since the Covid-19 pandemic, this differential has eased to a still notable 1.5 percentage points.

Last but not least, after the sell-off in Asian credit in the second half of 2021, we believe that from a valuation perspective, Asian bonds are currently attractive. Asian credit, particularly in the high-yield segment, has been oversold given the concerns over the Chinese property sector. We firmly believe this will be the year of the great normalisation of Asian spreads and that outsized returns are likely to be driven by Asian HY given its attractive valuations and the potential for significant spread compression. We will elaborate on this point in a later section of this paper.

OUR SOLUTION TO INVESTING IN A MORE SUSTAINABLE FUTURE FOR ASIAN CITIES

In our view, tackling the environmental and social challenges facing Asian cities should involve a multi-faceted approach, spanning several themes. While exploring this topic, we referenced one of the key institutions in infrastructure development in Asia – the Asian Infrastructure Investment Bank – specifically, its research on developing sustainable cities and its Sustainable Capital Market Initiative. In its Sustainable Cities Strategy, AIIB identified these focus areas for cities to become more sustainable:

<table>
<tr><th>OBJECTIVE</th><th colspan="2">EXAMPLES</th></tr>
<tr><td>Enhance urban mobility</td><td>• Metro; light rail; tram; bus transport; bus rapid transit; ferry
• Low carbon infrastructure (e.g., infrastructure for electric cars;
pedestrian and non-motorised transport facilities)
• Multi modal hubs; integrated traffic corridor
• Transit oriented development
• Street; urban road</td><td rowspan="4">Cross-cutting theme: Innovative and technological solutions

(e.g., smart grid; smart metering; smart signalling; smart lighting; e-road pricing)</td></tr>
<tr><td>Improve basic infrastructure and city resilience</td><td>• Water supply; sewerage; wastewater treatment; solid waste collection and disposal
• Urban drainage; storm water management; flood protection; water resource management; sponge city; green infrastructure
• Green buildings; public rental housing; public spaces
• Urban data infrastructure
• Electricity distribution</td></tr>
<tr><td>Promote integrated development</td><td>• Industrial parks; special economic zones
• Commercial business districts
• Neighbourhood (slum) upgrading
• Urban redevelopment/regeneration
• New city/district development; satellite cities</td></tr>
<tr><td>Improvement of health / education facilities</td><td>• Education sector: Public schools; universities
• Health sector: Public hospitals; clinics</td></tr>
</table>

Source: Asian Infrastructure Investment Bank, Strategy, Policy and Budget Department, Study on Sustainable Cities, August 2018

Acknowledging these areas, our Sustainability Centre has expanded on the following five aspects that would be used to define a universe of eligible securities for our thematic fixed income strategy:

- Enhancing urban mobility within and across cities, incorporating low-carbon elements where possible
- Improving the basic infrastructure of cities to operate and thrive, as well as improving their resilience to extreme weather events
- Promoting integrated development to balance a mix of social, economic, nature-based activities
- Building health and education facilities to increase the provision of and improve access to healthcare and education
- Supporting innovative and technological solutions for the sustainable development of cities.

A two-pronged approach to constructing a sustainable cities portfolio

We believe that we can promote the development of sustainable Asian cities that are green, resilient, efficient, accessible and thriving[12] through a bond portfolio of Asian[13] issuers selected using a two-pronged approach:

1 Sustainable-labelled bonds
2 Non-labelled conventional bonds from issuers that earn at least 20% of their revenues from this theme.

This forms the basis for our Sustainable Asian Cities (SAC) Bond strategy.

Defining the universe of eligible sustainable-labelled bonds

This portion of the portfolio will directly promote – and invest in – GSS use-of-proceeds bonds, as well as selected sustainability-linked bonds. These bonds tend to be aligned with the five aspects of sustainable cities.

Here is a non-exhaustive summary[14] of the various types of GSS and sustainability-linked bonds, with definitions from the International Capital Market Association (ICMA):

- Green bonds: any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance, in part or in full, new and/or existing eligible green projects such as (but not limited to) renewable energy, pollution prevention and control, clean transportation, sustainable water management, etc.

12 Asian Infrastructure Investment Bank "*Sustainable Cities Strategy: Financing Solutions for Developing Sustainable Cities in Asia*", December 2018.
13 We will focus on Asian developing/emerging economies as that is where most investment is needed; we will consider an issuer to be Asian if it demonstrates that it has significant operations in Asia, whereby operations can be represented by non-exhaustive metrics such as revenues, profit, enterprise value, volume of products and/or services sold, number of employees, etc.
14 Please refer to the International Capital Market Association (ICMA) site at www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/ for a more in-depth definition of the various type of GSS and sustainability-linked bonds.

- Social bonds: any type of bond instrument where the proceeds, or an equivalent amount, will be exclusively applied to finance or re-finance in part or in full new and/or existing eligible social projects such as (but not limited to) affordable housing and infrastructure, access to essential services, food security, etc.

- Sustainability bonds: any type of bond instrument where the proceeds or an equivalent amount will be exclusively applied to finance or re-finance a combination of both green and social projects as defined above

- Sustainability-linked bonds: any type of bond instrument for which the financial and/or structural characteristics can vary depending on whether the issuer achieves predefined sustainability or ESG objectives. Issuers are committing explicitly (including in the bond documentation) to future improvements in sustainability outcome(s) within a predefined timeline. They are forward-looking performance-based instruments.

Examples of use-of-proceeds or linked targets include:

- Electrified rail rolling stock, electrified vehicles and related infrastructure

- Renewable power generation development

- Wastewater treatment and waste management facilities

- Healthcare facilities

- Improved water recycling rates.

We select suitable investments by drawing upon our proprietary thematic bond assessment framework, which combines:

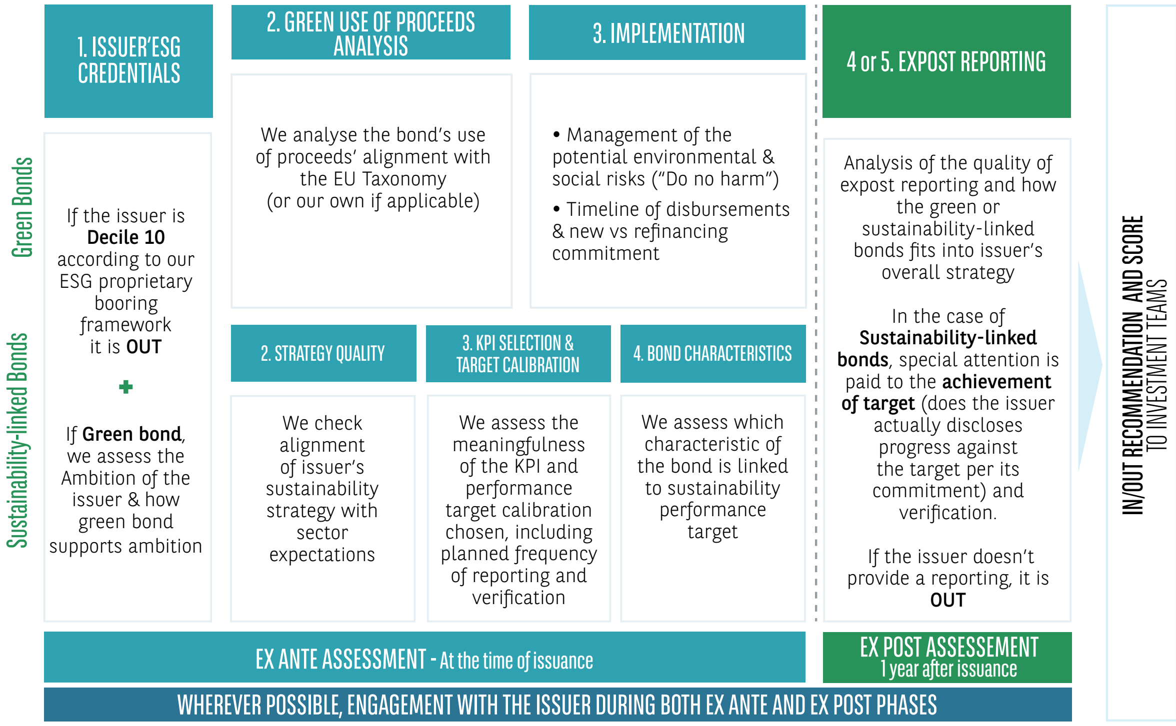
- Issuer ESG analysis: Including both the issuer's ESG score and ambition

- Use-of-proceeds or sustainability performance targets: Eligibility based on the sustainable cities aspects and related taxonomy

- Sustainable bond implementation: Including the management of potential environmental and social risks, and the management of proceeds

- Ex-post reporting: To ensure the issuer reports on the actual use of proceeds and progress in generating the intended outcome.

Exhibit 3: Our company-wide green bonds and sustainability-linked bonds assessment framework



Source: BNP Paribas Asset Management. As of February 2022.

For a sustainable-labelled bond to be included in the portfolio, its use of proceeds should be associated with sustainable cities. For example, we can include a bond whose use of proceeds includes loans to support small and medium-sized companies, and loans for electric vehicles. This bond can be included since some of the proceeds are linked to one or more aspects of sustainable cities (e.g., the portion related to electric vehicle loans). In the case of sustainability-linked bonds, at least one target should be associated with sustainable cities.

Based on our criteria, as of October 2021, we estimate that the universe of eligible Asian sustainable-labelled bonds stood at around USD 120 billion in outstanding securities.

Defining the universe of eligible conventional bonds aligned with sustainable Asian cities

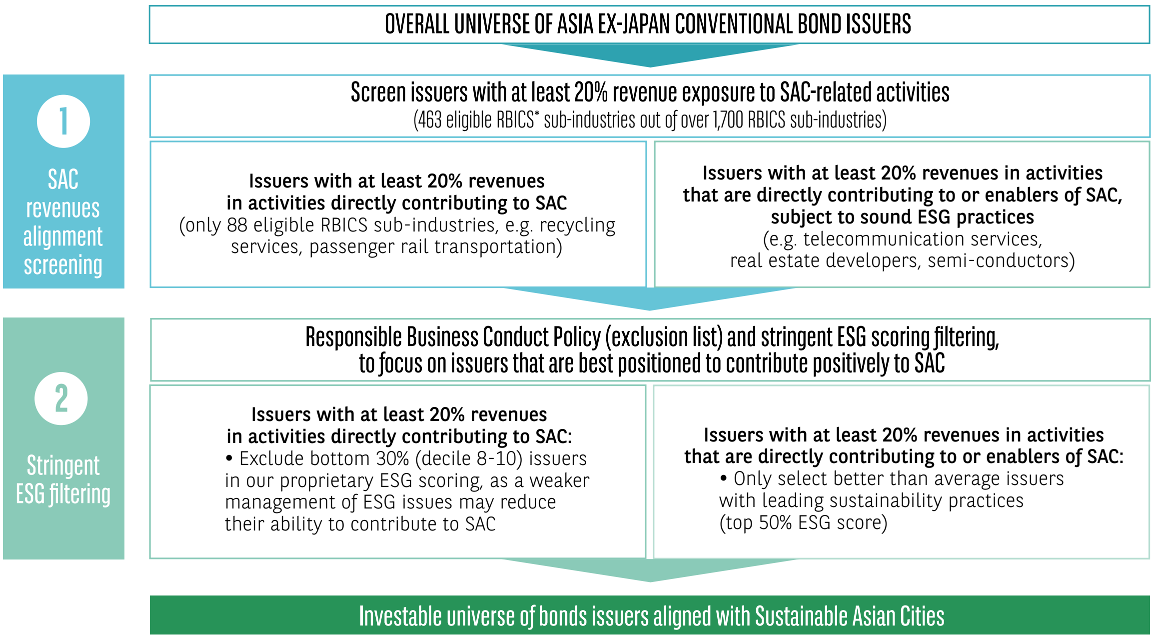
This portion of the portfolio allows us to invest in Asian credits at a larger scale from inception, given that sustainable-labelled bonds are still a relatively narrow segment of the broader Asian credit universe. Because non-labelled credits finance the general working capital of the issuer as a whole (vs. specific use of proceeds in sustainable labelled bonds), we need to select issuers with relevant business activities aligned with sustainable cities, so as to ensure our investments contribute materially to the theme via the five focus areas mentioned above.

To be eligible, an issuer has significant exposure to the theme if at least 20% of revenues comes from activities that either
i) contribute directly to the theme, and/or
ii) enable the theme (both are subject to sound ESG practices).

To do so, we use revenue data from FactSet called RBICS[15] (Revere Business Industry Classifications System). FactSet classifies a company's revenue into a 14 x 6 matrix (i.e., 14 types of industries, and six layers of revenue categories depth). There are slightly more than 1 700 of level six revenue categories. Thereafter, we classify each level six revenue category as either contributing directly or potentially enabling. In total, we identify 88 level six revenue categories as direct contribution and 375 level six revenue categories as potentially enabling (for a total of 463).

Following the revenue threshold screening, issuers are subject to further ESG filtering to create the potential investable universe of issuers aligned with sustainable Asian cities.

Exhibit 4: Methodology to create the potential investable universe of issuers aligned with sustainable Asian cities



*FactSet Revere Business Industry Classifications System (RBICS).
Source: BNP Paribas Asset Management; as of February 2022

Revenue categories that are direct contributors to the SAC theme

Some activities performed by companies are naturally close to, or have a direct link to, one or more of the aspects of sustainable cities. Examples are emission control services and technologies or smart grid technology and smart meter products. These activities directly improve environmental and/or social outcomes. From a SAC perspective, they align with one or more aspects of sustainable cities. For issuers with at least 20% of revenues from these activities, we apply these ESG filters to determine their final eligibility:

- First, we filter out issuers that are on our exclusion list based on our Responsible Business Conduct Policy (see below), to avoid investing in issuers with a track record of negative controversial activities

15 See more on FactSet RBICS at At a Glance: FactSet Revere Business Industry Classifications DataFeed.

- Second, we exclude issuers ranked in the bottom 30% (Deciles 8, 9, 10) versus their industry peers in our proprietary ESG scoring framework.[16] A bottom 30% issuer manages sustainability issues poorly and may not be well positioned to contribute sufficiently to SAC. As a result, the issuer is less likely to match our desired profile for inclusion in a sustainable cities portfolio, so we prefer to exclude it.

Exhibit 5: Our Responsible Business Conduct Policy covers both global standards and sector policies

UNITED NATIONS GLOBAL COMPACT & **OECD** MNES(1) GUIDELINES	**+** SECTOR POLICIES
Universal benchmarks for assessing companies	**Implementation of policies for sensitive sectors**
Based on 10 principles covering: Human rights Labour Environment Anti-corruption	**Exclusions** Controversial weapons Coal Tobacco Asbestos Unconventional oil & gas
Including the UN Global Compact Watchlist	**Sector with minimum requirements** Palm oil and Wood Pulp Nuclear Mining Agriculture

MNEs: Multinational Enterprises.
Source: BNP Paribas Asset Management; as of February 2022

Revenue categories that are enablers of the SAC theme (subject to sound ESG practices)
These activities can contribute to the theme subject to the issuer adopting better sustainable practices. An example is electronic waste services (including recycling of electronic waste). This contributes to SAC by closing the loop in terms of dealing with electronic waste, but such activities need to be performed in a responsible and safe manner to enable a city to become more sustainable. For issuers who do not fall into the first bucket (direct contributors), but have at least 20% of their revenues coming from these categories and direct contributing revenue categories together, we apply our ESG filters as described below.

Our proprietary ESG scoring framework aims to capture these critical sector-specific ESG issues. We aim to identify – through their higher ESG score – issuers that are adopting leading sustainability practices and are most likely to actively contribute to Sustainable Asian Cities aspects. Further SAC and ESG filtering for this second bucket is as follows:

16 More information regarding the BNP Paribas Asset Management's ESG Scoring Framework can be found on: https://www.bnpparibas-am.com/en/esg-scoring-framework/.

- First, we filter out issuers that are on our exclusion list based on our Responsible Business Conduct policy to avoid investing in issuers with a track record of negative controversial activities

- Second, we only include issuers who are ranked in the top five ESG deciles (top 50% for ESG score). These issuers are the better performers in their sector in terms of sustainability practices, goods and services. As such, we consider them to be better positioned among their own peers to contribute to sustainable cities. Conversely, this means the lower than average (bottom 50% for ESG score) issuers within these industries are not eligible.

Estimated investable universe of bonds aligned with Sustainable Asian Cities
Following this filtering process of the conventional Asian bond universe, we estimate that the size of the universe of potentially eligible conventional bonds (excluding convertibles and non-USD denominated bonds) stands at around USD 110 billion+ in outstanding securities as of October 2021. Adding the universe of potentially eligible sustainable-labelled bonds of USD 120 billion+, the total stands at more than USD 230 billion. That said, given the expected increased issuance of sustainable-labelled bonds, we believe that the universe will grow over time.

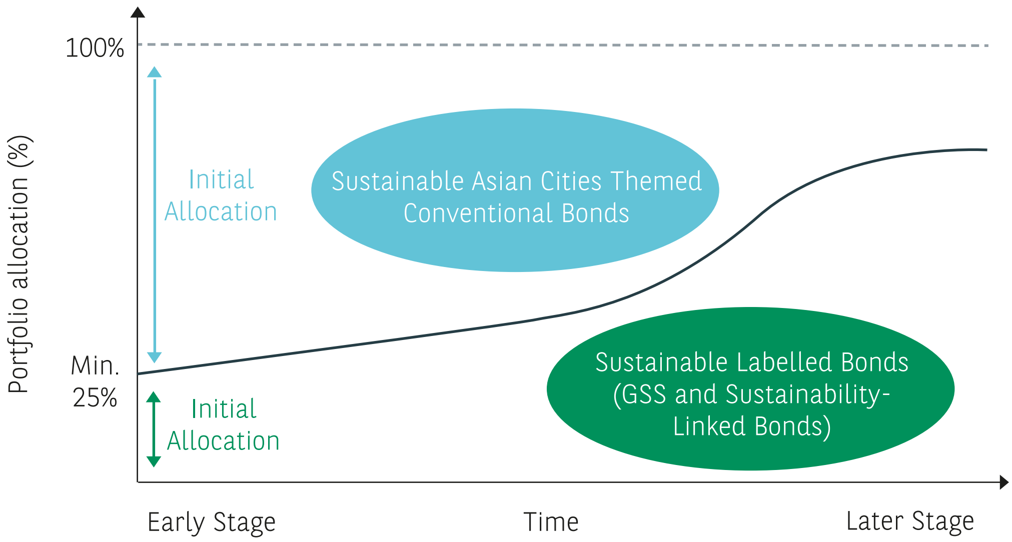
Other considerations in the initial setup of the strategy
Given the initial size of the Asian sustainable-labelled bond universe, and diversification, risk control and yield considerations, there could be a limited initial allocation (e.g., for the model portfolio shown on the next page) to conventional bonds which are neither sustainable-labelled nor part of the Sustainable Cities theme (i.e., 'Others').

That said, issuers falling in this bucket will be subject to a robust ESG filtering process, in line with the sustainability positioning of the portfolio. We will exclude conventional bonds from issuers which:
i) contravene our Responsible Business Conduct Policy, or are from the oil & gas, iron and steel sectors, and/or
ii) rank in the bottom 10% (decile 10) issuers in our proprietary ESG scoring.

Additionally, we will prefer issuers with a higher ESG score, and this will be demonstrated by targeting an overall portfolio ESG score higher than that of its ESG benchmark and significantly higher than the universe of Asian corporate bonds, as measured by the JPMorgan Asia Credit index ex Sovereign.

Over time, as the market develops, we aim to reduce the allocation to the 'Others' bucket so that the holdings of the portfolio would either be sustainable-labelled bonds or SAC-themed conventional bonds. At the initial setup of the portfolio, we are committed to keeping a minimum target allocation of 25% to sustainable-labelled bonds. In our portfolio construction, we prefer issuers with a higher ESG score as we believe these issuers manage their ESG risks better and are more likely to have a higher alignment with the SAC theme.

Exhibit 6: Longer-term glide path for allocation between sustainable-labelled bonds and SAC-themed conventional bonds[17]



Source: BNP Paribas Asset Management; as of February 2022

In a nutshell

Our proposed Sustainable Asian Cities Bond strategy:

- Aims to invest into five aspects of Sustainable Asian Cities to make them green, resilient, efficient, accessible and thriving
- Follows a two-pronged approach investing in sustainable-labelled bonds whose use of proceeds or targets directly contribute to sustainable cities, and in conventional bonds from issuers with a significant exposure to activities associated with sustainable cities
- Has strong sustainability credentials resulting from our proprietary thematic bond assessment framework, our Responsible Business Conduct policy, and our proprietary ESG scoring system

17 Excludes temporary allocation to other conventional bonds at the start of the strategy.

'GREENIUM' –A POTENTIAL SOURCE OF ALPHA FOR EARLY ADOPTERS OF SUSTAINABLE-LABELLED BONDS IN ASIA?

One of the peculiarities of GSS bonds is their ability to trade at a premium versus regular (vanilla) bonds. On the face of it, there is no obvious reason for this premium, as there would be no difference in default risk when looking at bonds from the same issuer and without subordination. These bonds are just as likely to be repaid as their vanilla counterparts, or in other words, there is no greater or lesser default risk attached to them.

Some research findings

Focusing on the primary market, CBI's latest research[18] analysed 56 EUR and 19 USD denominated benchmark sized green bonds with a total value of USD 75.9 billion issued between January and June 2021. It confirms that on average, both EUR and USD green bonds achieved higher book cover and greater spread compression than their vanilla equivalents.

For the EUR bonds, the average oversubscription was 2.9x for green bonds, and 2.6x for their vanilla equivalents, while spread compression averaged 20.4bp for green bonds and 19.6bp for vanilla bonds. For USD bonds, the average oversubscription was 4.7x for green bonds and 2.5x for their vanilla equivalents, while spread compression was more pronounced, averaging 29.9bp for green bonds and 24.8bp for vanilla bonds.

Looking at the secondary market, our Quantitative Research Group (QRG) used the Bloomberg Barclays Global Aggregate index as a starting point and flagged the bonds that fell within the 'Thematic Bond Classification' of green, social and sustainability (identified by our Sustainability Centre). This left them with 1 145 bonds (737 corporates, 235 sovereign, 172 quasi-sovereign) from 494 issuers.

To make the comparison between these bonds and their vanilla counterparts statistically relevant, QRG ensured that the following criteria were met:

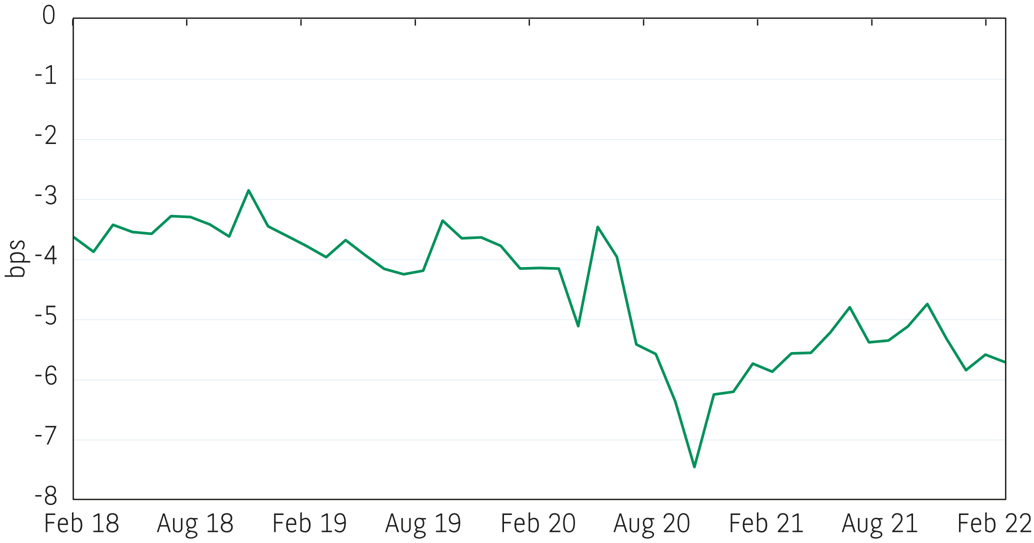
- Same issuer, currency, rating
- Senior bonds only
- imilar duration
- No missing values.

However, as most of the GSS bonds do not have directly comparable bonds due to significant duration differences, QRG used curve fitting in its analysis and defined the greenium as the yield of the green bond minus the yield on the fitted curve for the same duration. After these considerations, there was a total of 441 bonds from 215 issuers which QRG was able to analyse.

The analysis shows that, on average, there is a -5bp greenium that can be attached to the GSS bonds in our sample compared to their vanilla counterparts (see breakdown by calendar month below). This is in line with other research into the greenium, notably by the IFC[19], which stated in its 2021 report that the greenium had averaged -4.7bp over the previous four years.

18 Green Bond Pricing in the Primary Market: January - June 2021.
19 Emerging Market Green Bonds Report – Spring 2021.

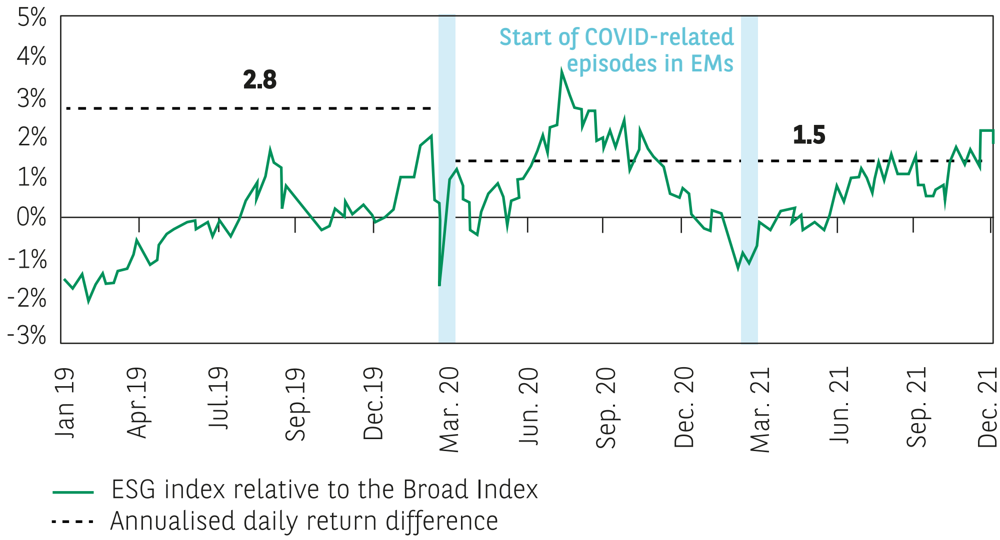
Exhibit 7: Average greenium per month in bps



Source: BNP Paribas Asset Management; as of February 2022

If GSS bonds command a premium and can outperform their vanilla peers as evidenced by the IMF data in Exhibit 8, this must reflect a prevalence of demand over supply. Looking at GSS bonds specifically in emerging markets, the IMF estimates that since 2019 – the period in which more than half of EM GSS bonds were issued – they have on average returned 2.8 percentage points more than the corresponding broad index. Since the Covid-19 pandemic, this differential has eased to a still notable 1.5 percentage points.

Exhibit 8: Bond returns - Emerging market ESG versus the broad index



Note: 100 = 1 Jan 2020; in %; as aggregated by JPMorgan in its ESG EMBI Global Diversified index
Source: IMF, Sustainable Finance Markets in EMs; 26 January 2022

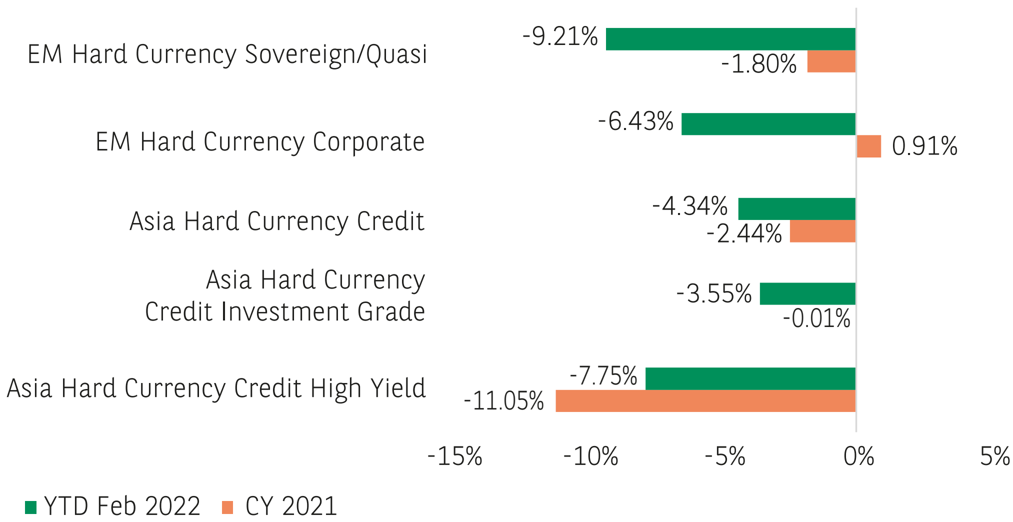
We believe that as local demand for this type of bonds continues to grow and the local market develops, this greenium should not only become more widespread within EM GSS bonds, but it should also widen in the short term. We are in the initial phase of the creation of a greenium in Asia: While we expect more supply, demand is expected to grow significantly and outpace supply. Institutional investors, and further down the road retail investors, are likely to participate in this market. Furthermore, we expect the greenium to build over time, rewarding early investors dedicated to the creation of a new asset class.

Compared to developed markets, Asian green financing is in its infancy and the gradual emergence of this new asset class should be positive for early investors. However, compared to other EM regions such as Latin America or CEEMEA, we believe its potential is much larger and will be spread better across countries, credit risk (ranging from investment-grade to high-yield), types of issuers (sovereign, quasi-sovereigns, corporates) and, over time, maturities. While the size of the market might initially be constrained, we expect capacity to grow significantly over time.

ASIA AND CHINA REAL ESTATE CREDIT - INCREASINGLY ATTRACTIVE DESPITE RECENT HEADWINDS

2021 and 2022 (to February) have been particularly challenging for hard currency Asia credit, a segment that has traditionally been regarded as less volatile than the rest of the EM debt universe. The JPMorgan Asia Credit index (JACI) returned -2.44% and -4.34% respectively over 2021 and the first two months of 2022. The main detractor was the Asia HY segment (-11.05% over 2021 and -7.75% over January-February 2022). This was largely driven by Chinese real estate issuers. Their bonds have sold off since H2 2021 amid reports that several prominent developers could not meet their debt obligations.

Exhibit 9: Performance of EM hard currency bonds over 2021 and January-February 2022 (in %)



Source: JPMorgan; as of February 2022. EM hard currency sovereign/quasi represented by the JPM EMBI Global Diversified, EM hard currency corporate represented by the JPM CEMBI Broad Diversified, Asia hard currency credit represented by the JPM Asia Credit Index (JACI), Asia hard currency credit IG represented by JACI Investment Grade, and Asia hard currency credit HY represented by JACI Non-Investment Grade

We recognise that Asian real estate developers are essential for our SAC Bond strategy, because

i) the sector and the business and services that it provides are integral to the SAC theme (i.e., buildings and infrastructure), and

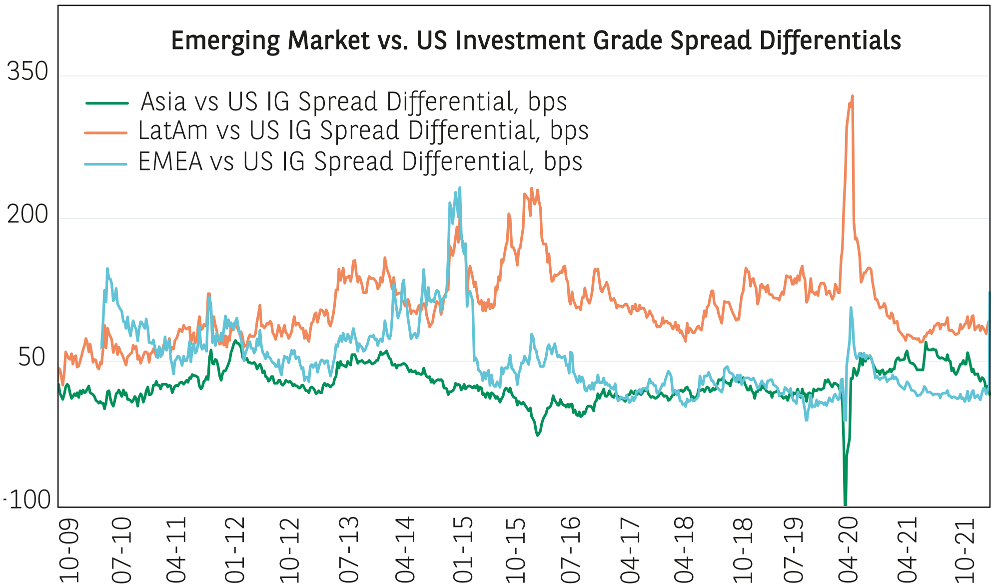
ii) it is a key part of the Asian credit market, making up more than 9% of the universe.[20]

The China real estate sector has faced headwinds as some developers have encountered weaker sales and refinancing. Because of negative headlines, sentiment in the sector has remained weak. That said, looking at the fundamentals and the longer-term prospects, we are more optimistic about its future and we see the sector as being at a significant inflection point.

Asia credit spreads - Trading at attractive levels

In the wake of the sell-off of Asian credit since 2021, credit spreads have widened significantly. This is particularly the case in the HY segment where spreads are currently near historical wides. Even in the IG segment, spreads still look fair (as they have compressed to a certain degree more recently) relative to historical levels. This is typically a region that has remained expensive relative to other emerging market hard currency debt.

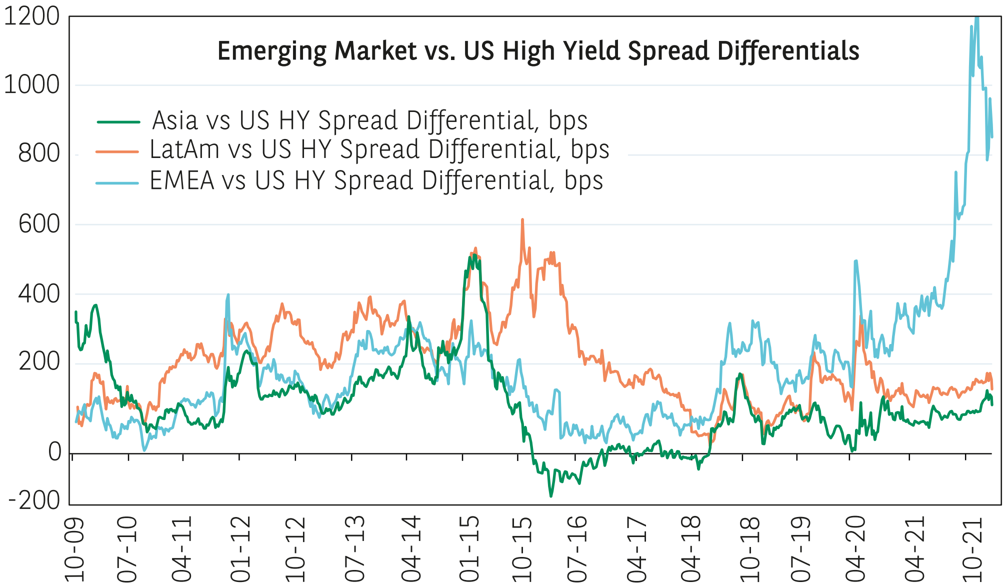
Exhibit 10: Asia credit spreads look compelling relative to the rest of EM



Source: ICE Data Indices, LLC., BofA Global Research, MSCI, Bloomberg; as of 28 February 2022

20 As per the JPM Asia Credit index as of 28 February 2022.

Exhibit 10: Asia credit spreads look compelling relative to the rest of EM



Source: ICE Data Indices, LLC., BofA Global Research, MSCI, Bloomberg; as of 28 February 2022

The current level of spreads looks very attractive, particularly for high-conviction investors such as ourselves (we note that the recent apparent tightening at the benchmark level is due to the exclusion of defaulted issuers).

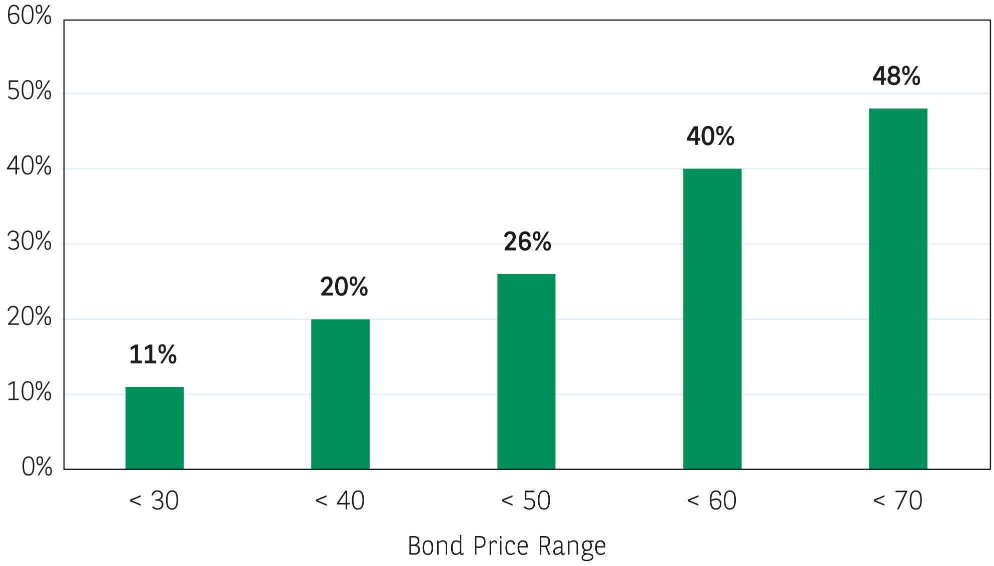
We firmly believe that 2022 will be the year of the great normalisation of Asian spreads. Outsized returns are likely to be driven by Asian HY given its attractive valuations and the potential for significant spread compression.

China real estate - Shorter-term challenges persist, but the worst could be behind us

Since the second half of 2021, local governments in China have strictly scrutinised pre-sales real estate proceeds due to concerns over project incompletion risk. A large proportion of a developer's cash flow has had to be deposited or re-deposited into escrow accounts at the project level. As a result, the liquidity position of developers has deteriorated materially as most cash is now restricted and inaccessible for debt repayment. At the same time, most refinancing channels are effectively closed due to heightened borrowing costs, while housing sales are sluggish as homebuyers wait and see amid market uncertainties. The only option that developers can rely on to replenish liquidity is to dispose of assets since operating cash flow and financing cash flow are no longer enough to repay debt.

We believe the market has now priced in a worst-case scenario. According to research, the current HY bond price reflects an implied default rate of 26%, if we assume all bonds trading at <50 will eventually default, extend, or restructure in 2022. This is in addition to a >30% default rate in 2021. We expect the actual default rate in 2022 to be lower than the implied rate, given our assumption that the Chinese authorities will develop more front-loaded supportive policies amid concerns over economic growth and the health of the real estate sector. Our focus is on whether developers are able to muddle through this difficult period before policies gradually begin to stimulate housing demand and restore a healthier liquidity environment and refinancing market.

Exhibit 11: China property high yield default rate (in %)



Source: Bloomberg, Goldman Sachs Research; as of 12 January 2022

The housing market in China has grown rapidly over the past few years. The total transaction amount increased to RMB 18.2 trillion in 2021 from RMB 13.4 trillion in 2017. Based on estimates, the property sector, including the upstream and downstream industries, contribute about 30% of the country's GDP. It is imperative that the sector develops stably for China to achieve its target GDP growth of 5% - 5.5% in 2022. The need to preserve economic stability has become even more salient recently as the country copes with a resurgent Omicron wave. Given that the restrictive property policies have successfully curbed debt levels and reduced risk in the sector, we expect the government to continue to provide support and restore normalcy.

That said, idiosyncratic risk remains the key risk area in the China property sector. We believe that apart from policy support, solid credit fundamentals are of the utmost importance in the current environment – developers with better metrics in terms of cash buffer, sales performance and multiple revenue sources, asset base, strong shareholder support and potentially easier funding access will fare significantly better than those without. Developers with these qualities that can 'survive' this market downturn are more likely to gain a competitive edge over their peers and emerge in better shape for the future. We believe that Chinese policymakers want to draw a line in the sand and make sure that the sector can weather the storm, while allowing some issuers to default when deemed unsustainable.

Policy shift to ease stress in China's property sector

There have been signs in recent months that policy is turning more supportive for the sector. We expect the contraction in real estate activity to start easing in the coming months on the back of policy stimulus and further tweaks to property controls.

Policymaking in 2021 was marked by a shift in focus towards tackling the medium-term structural problems and away from supporting short-term economic growth. A key aspect was a campaign to reduce financial risk by imposing strict controls on the debt-ridden property sector. Despite the resulting slowdown in activity, officials held back on loosening controls for most of 2021. The 'pain threshold' appeared to have been reached by early December when policymakers signalled a pro-growth shift, with economic stability being elevated to the top of the policy agenda.

Since then, we have seen a continued increase in policy support for the sector:

- A number of city and provincial governments have announced policies aimed at promoting property sector activity. The People's Bank of China has called on banks to support the sector by extending loans to healthy firms so that they can buy projects from struggling ones (state media report these loans will not be classified as debt).

- At the National People's Congress in March, policymakers reiterated that, "Houses are for living in, not for speculation" and balanced this with vows to encourage both construction of affordable rental housing and purchases to meet the needs of homebuyers. China's leaders underscored the need for "stable land costs, stable house prices and stable market expectations".

- After the sharp sell-off in Chinese financial markets that had accelerated in the wake of Russia's invasion of Ukraine, officials intervened to reassure investors, saying Beijing would take measures to support the economy and markets. Given its specific reference to the property sector, we believe we are now at an inflection point and expect direct support to property developers to be one the key pillars of government strategy.

That said, we are not predicting a repeat of the massive easing in 2015/16. Instead, we expect policies to focus on lower-profile tools to keep developers afloat by increasing their financing and boosting cash flows. These may include a further easing of rules on mortgages as well as measures to improve developers' access to bank loans and the bond market. We could even see an extension of the transition period for the 'Three Red Lines' policy if conditions do not improve soon.

We expect more local governments to tweak property controls as the property market stress has deprived them of revenue from land sales. Specifically, we anticipate a further easing in local purchase and price restrictions, adjustments to land supply and prices, and an increase in the construction of affordable and rental housing. While the scale of these measures is likely to be moderate and will not necessarily drive a V-shaped recovery in property activity, we think they will be enough to ease the pace of contraction in property starts and sales. This should help to alleviate some of the stress in the sector.

CONCLUSION

Our new investment strategy, Sustainable Asian Cities, will help tackle the unique challenges facing Asian cities as they continue to grow and deal with climate change. We see this as becoming more relevant in EM, particularly in Asia.

The strategy aims to invest in sustainable-labelled bonds as well as conventional bonds from issuers who earn at least 20% of their revenues from the theme. In our view, this strategy showcases our strong sustainability credentials in the form of our proprietary thematic bond assessment framework, our Responsible Business Conduct policy and our proprietary ESG scoring system.

Investors will not only gain access to a new thematic fund; they will also be able to tap into the emerging greenium of GSS-labelled bonds in Asia. We believe this premium will only widen with time as the market grows.

Finally, we believe that spread widening in Asia credits provides investors with an attractive entry point, especially since we are at an inflection point after the explicitly dovish tone from Beijing in recent weeks. Furthermore, Asia bonds offer more idiosyncratic returns and are much less exposed to the effects of the US Federal Reserve's policy tightening cycle. Valuations look generally compelling compared to other fixed income asset classes.

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ABOUT BNP PARIBAS ASSET MANAGEMENT'S EMERGING MARKET FIXED INCOME (EMFI) TEAM

The EMFI team seeks to deliver long-term outperformance across our emerging market debt strategies with our high conviction and contrarian investment approach, while integrating a high level of ESG considerations within our investment process.

Our competitive advantage vs. peers:

- Adopting a full spectrum approach to EMFI, analyzing the entire emerging market bond investment universe to build portfolios with dynamic exposures to sovereign credit, local rates, quasi/corporate credit, and EM currencies
- Operating with a concentrated alpha style, searching for high conviction ideas and establishing sizeable positions in our trade in order not to dilute alpha generation
- Taking on a contrarian approach by identifying key inflection points and identifying trades which are less understood/mispriced
- Leaders of ESG integration by ensuring ESG factors are well-integrated with our investment process, with strong support from our Sustainability Centre

The EMFI team currently comprises of 14 members located in 4 countries across Europe and Asia, with an average of over 14 years of industry experience across members. The team benefits from our broader firm-wide EM resources across 15 countries with 12 local investment centres in emerging countries providing qualitative, on-the-ground, regional insights.

ABOUT THE SUSTAINABILITY CENTRE

BNP Paribas Asset Management's Sustainability Centre, created in 2017, drives our approach to sustainable investment. It is responsible for developing and implementing the firm's Global Sustainability Strategy and responsible business practices, which are vital in tracking BNP Paribas Asset Management's impact and progress on sustainability. It provides investment teams with research, analysis and data at company and sectoral levels. It also supports teams in their efforts to integrate fully sustainability-related risks and opportunities into investment strategies. This is achieved by our ESG research analysts, whose insights are informed by a variety of external data and research sources. The Sustainability Centre also provides a range of educational opportunities to colleagues across the organisation. Our Sustainability Centre is composed of 29 professionals, including three team members based in Asia, working in close collaboration with our investment teams on ESG integration and engagement with portfolio companies.

The value of investments and the income they generate may go down as well as up and it is possible that investors will not recover their initial outlay.

Investing in emerging markets, or specialised or restricted sectors is likely to be subject to a higher than average volatility due to a high degree of concentration, greater uncertainty because less information is available, there is less liquidity, or due to greater sensitivity to changes in market conditions (social, political and economic conditions).

Some emerging markets offer less security than the majority of international developed markets. For this reason, services for portfolio transactions, liquidation and conservation on behalf of funds invested in emerging markets may carry greater risk.

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May 2022 - Design: Creative Services BNPP AM - P2204030

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