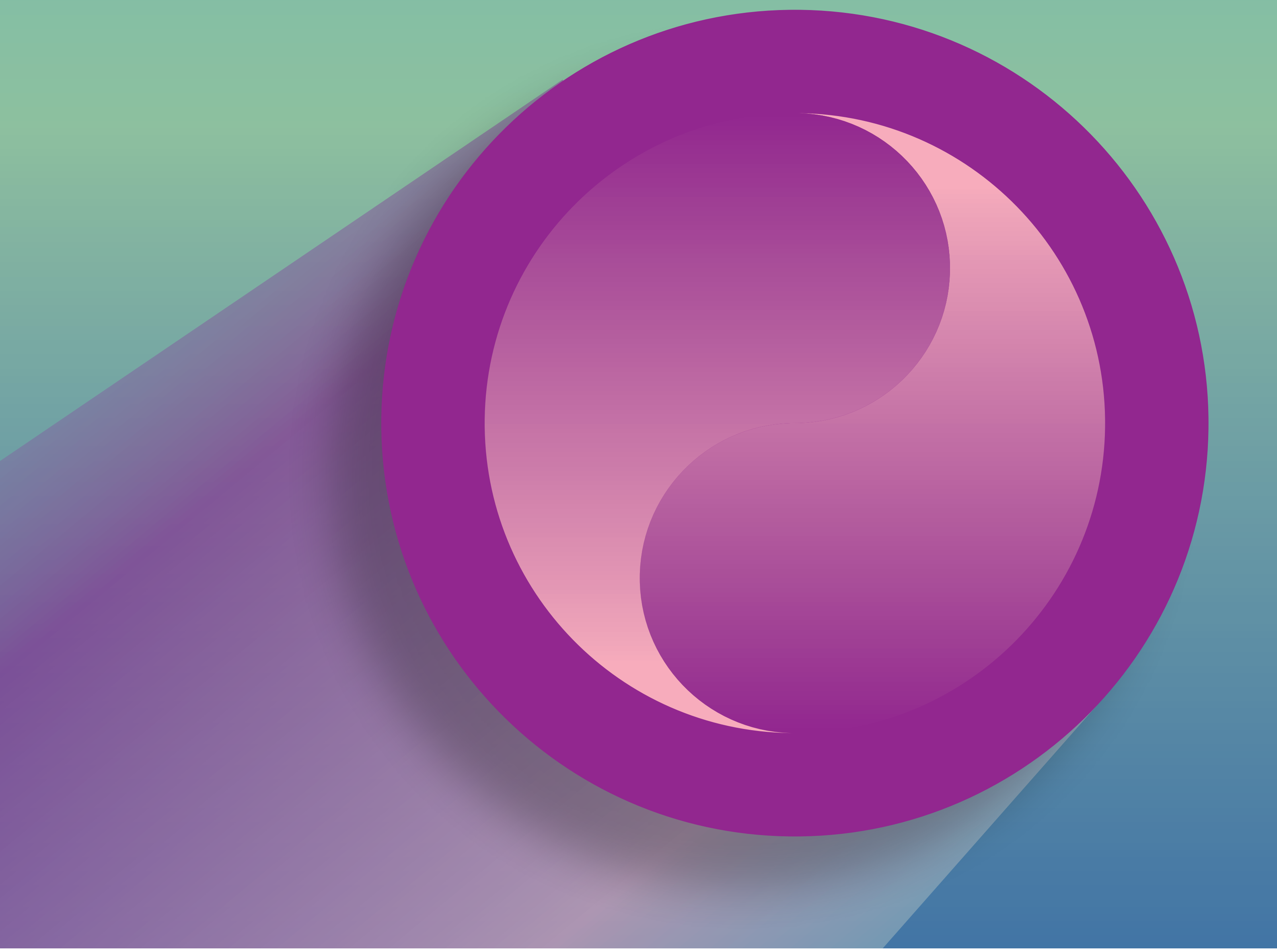
China's Growing Sustainable Debt Market

RAPID GROWTH DELIVERS IMPACTS



Climate Bonds Initiative

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UK PACT CHINA

Prepared by Climate Bonds Initiative and CIB Research and sponsored by UK PACT.

1. Introduction

This report tracks regulatory and market developments in China's sustainable debt market.

The robust expansion in China's green, social and sustainable (GSS) debt market points to the country's determination to decarbonise and enhance the resilience of its environment and society. We expect this momentum to continue, backed by strong regulatory directives and surging demand from investors.

While innovative products will continue to sprout, ensuring broad consistency and a holistic approach will be crucial to maintaining standards in the ballooning market. As the clock is ticking, more ambitious actions to finance credible brown-to-green transitions will be required to reach the carbon peaking and neutrality goals.

Globally, annual issuance of USD1tn in green bonds is expected to be in sight by the end of 2022, with the full labelled GSS bonds, sustainability-linked bonds (SLBs) and transition bonds exceeding USD1tn issuance in 2021. Green and other labelled debt instruments are now becoming mainstream in the fixed-income market. In Europe in November ESG-themed bonds reached over 40% of marketwide bond issuance, the highest monthly record of the year.[1] In Asia Pacific, ESG bonds made up 15% of bond offering in 2021.[2]

China's pledge to achieve carbon peaking by 2030 and carbon neutrality by 2060 (30·60 target) has become one of the priorities in driving the nation's green finance policies that will direct future actions. Constructing an ecological civilisation to emphasise the relationship between people and nature, provides a conceptual framework under which sustainable finance markets can evolve.

China's green bond market will continue to scale up rapidly. Policy updates, such as the 2021 edition of the *Green Bond Endorsed Projects Catalogue,* as well as ongoing international cooperation in developing the *Common Ground Taxonomy,* will underpin the cross-border financial flow of green capital.

To further support the low-carbon transition and green growth in the country, in early 2021 China's inter-bank regulators, the National Association of Financial Market Institutional Investors (NAFMII), published regulations for new products such as carbon neutral bonds. Carbon neutral bonds constituted around 50% of green bonds issued by the first half of 2021. Local governments are also expected to accelerate green bond issuance, as they have made achieving carbon targets one of their key priorities.

The Chinese sustainable debt market also saw large volumes of pandemic bond issuance (cumulative RMB1.54tn at end of June 2021), based on the use of proceeds model pioneered by green bonds. The popularity of thematic bonds suggests that demand is strong, and we expect China's GSS bond market to keep booming.

Other themes are likely to materialise as recognition increases among investors and financial intermediaries of the importance of sustainable development. In November 2021, NAFMII launched a pilot scheme that permitted foreign issuers to issue social and sustainability bonds in China, placing a spotlight on the growth of China's domestic thematic bond market and its alignment with the global GSS market.

To deliver its net-zero goals, China faces the urgency to fundamentally boost transitions from carbon intensive industries, given high dependence on fossil fuels in its current energy mix. Climate Bonds' *Frameworks to Assess Transition*, highlighting five core principles, lays the groundwork for a transition label that assists decisive investments to finance credible transitions in coming years.

This is the first research report on China's sustainable debt market jointly produced by the Climate Bonds Initiative (Climate Bonds) and CIB Economic Research and Consulting Co., Ltd. (CIB Research).

Contents

2. International sustainable debt market overview

Climate Bonds publishes an annual State of the Market (SOTM report) on global green bonds, describing the shape, size, and composition of the green bond market. Since 2020, this flagship report has been extended to the broader sustainability bond market, including all three GSS labels. This adjustment reflects Climate Bonds' observation of the rapidly evolving markets beyond green.

Methodology

The global sustainable debt market presented in this report covers all three GSS themes.

The themes are defined as follows:

Green: dedicated environmental benefits (captured since 2012);

Social: dedicated social benefits (captured since 2020);

Sustainability: green and social benefits are combined into one instrument (captured since 2020).

In addition, the report will introduce transition bonds and SLBs (captured from 2021).

This report is informed by the **Climate Bonds Green Bond Database**, and the **Climate Bonds Social and Sustainability Bond Database**. To qualify for inclusion, debt instruments must a) have a label and b) finance sustainable projects, activities, or expenditures.

Debt labels describe the types of projects, activities, or expenditures financed, and/or their benefits. GSS labels are the most common with a broad range of labels in each theme.[3]

Green bonds

All deals in the green theme have been screened to verify their integrity. Screening is based on a set of process rules stipulated in Climate Bonds Green Bond Database Methodology,[4] including the following two overarching criteria:

1. Deals must carry a variant of the green label;

2. All net proceeds must verifiably (based on public disclosure) meet Climate Bonds' green definitions based on the Climate Bonds Taxonomy.

We review all green debt instruments to ensure their green credentials.

S&S bonds

Market participants have not yet developed a social taxonomy or equivalent classification and screening system, though work on this is ongoing in the EU and elsewhere. Climate Bonds does not screen S&S bonds' use of proceeds against performance thresholds. The use of proceeds is, however, classified in accordance with the respective labels as follows:

Social: label is exclusively related to social projects e.g., pandemic, Covid-19, housing, gender, women, health, education, etc. Pandemic prevention and control bonds refer to deals with a Covid related label such as pandemic response, Covid-19 etc.

Sustainability: label describes a combination of green and social projects, activities, or expenditures e.g., sustainable; SDG; SRI; ESG, etc.

Sustainable fixed income market

Theme	Label	Format
GSS	Green	Use of proceeds
	Social	Use of proceeds
	Sustainability	Use of proceeds
Transition	Sustainability-linked	Entity KPI-linked
	Transition	Use of proceeds

Labelled debt issuance reaches nearly half a trillion in H1 2021

Total volumes for the labelled sustainable debt market including GSS bonds, SLBs, and transition bonds reached nearly half a trillion (USD496.1bn) in the first half of 2021 (H1 2021). This amount represented 59% year-on-year growth from the equivalent period in 2020. It also sets the market on track to reach record highs this year after a 2020 total of almost USD700bn.

Cumulative total labelled issuance stood at USD2.1tn at end H1 2021, USD1.3tn of which bore the green label.

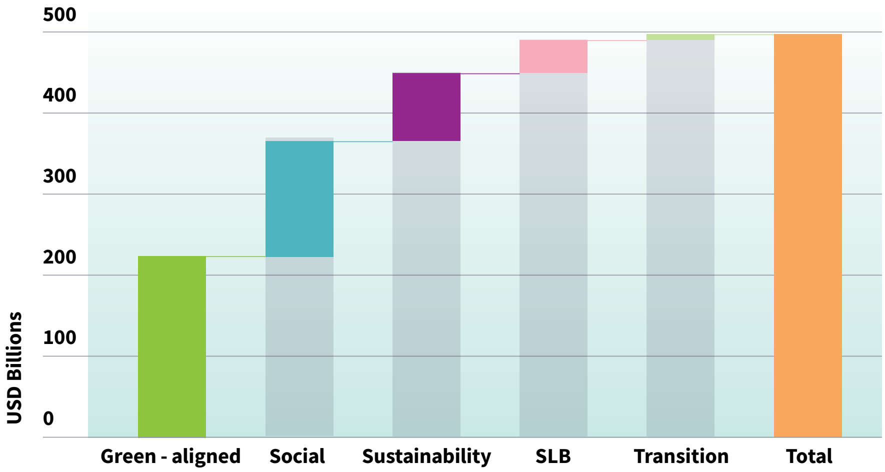
In 2020, USD700bn worth of GSS instruments were issued, almost double the prior year which stood at USD358bn. While green remains the dominant theme, and was the largest source of outright capital, the S&S themes grew dramatically and achieved higher volumes than all previous years combined. As a result, in 2020 total issuance was more evenly spread across the themes compared to prior periods.

The Covid-19 pandemic led to the rapid growth of the S&S debt markets. The social bond market exploded in 2020, with USD249bn issuance recording a more than 10-fold increase (1017%) year-on-year, the sharpest annual growth in any theme since the inception of the GSS debt market. The number of issuers using social labels also grew more than 10-fold (1107%), and the number of instruments increased by 488%. In 2020, social bond issuers encompassed a broader range of countries (29, up 89% year-on-year) and currencies (18, up 64% year-on-year).

The amount of debt issued under the multiplied by 2.3 times compared to 2019. More issuers entered the market, and the average size instrument size was USD630m, 3.14 times that of the prior year.

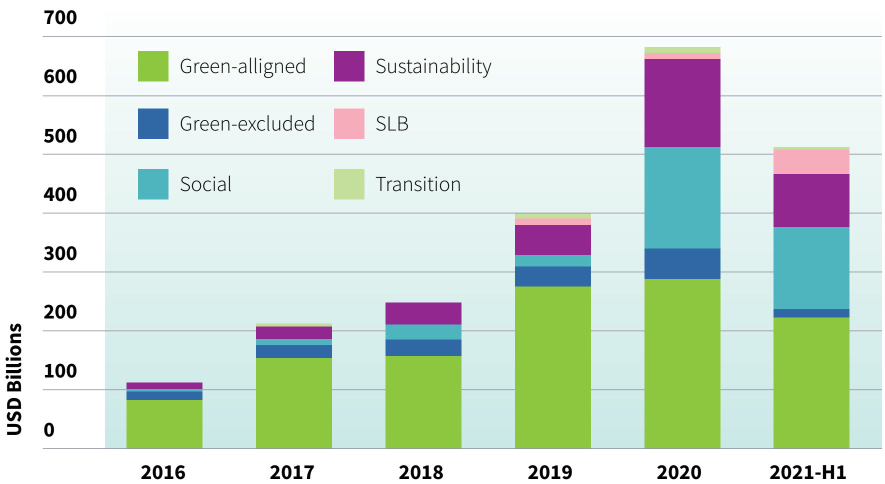
The green bond market was impacted by Covid-19 in early 2020 and issuance was subdued in H1. Thanks to a strong third quarter, the market recorded USD290bn by year end, realizing a slight increase (9%) compared to the previous year. While the number of issuers increased 14% year-on-year, the number of instruments slightly declined (-9%). The average size of the individual instruments issued under the green label was USD171m, the smallest of the three themes, suggesting that the green debt market has broad appeal among a range of issuer types. Multiple small instruments issued by US Munis and Fannie Mae under the green theme were a key contributor to this.

Labelled debt issuance in H1 2021 up 59% from a year earlier



Source: Climate Bonds Initiative

Rapid growth puts market on track for record levels in 2021



Source: Climate Bonds Initiative

Annual trillion in green bonds within reach by 2023

Issuance of green debt instruments continued to grow in the H1 2021, with volumes included in the Climate Bonds' Green Bond Database more than doubling to USD227.8bn compared to H1 2020–a record for any half-year period since market inception in 2007.

In H1 2021 green issuance reached the equivalent of more than three-quarters (76%) of the full-year 2020 volume, and more than half of Climate Bonds' 2021 year-end baseline forecast of USD450bn. This growth rate brings cumulative green bond volume to USD1.3tn. Our analysis suggests that even with a relatively modest growth rate, the annual issuance volume of green bonds could cross USD1tn in 2023.

Sovereign issuers have been a major feature in recent years. The first country to come to the market was Poland in 2017, and as of November 2021, there were 79 sovereign GSS bonds in the market, from 32 countries. Sovereigns have the ultimate power to transform the GSS market due to their scale and influence.[5]

Sovereign green bond new issuers since 2016

2016 Poland

2017 Fiji, France and Nigeria

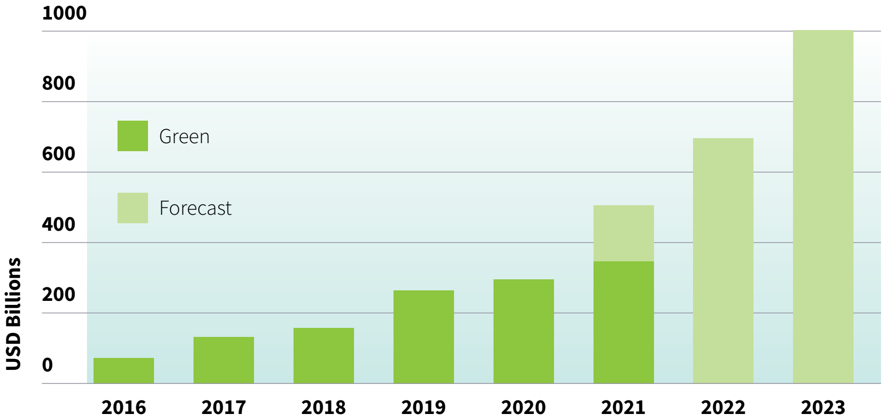
2018 Belgium, Indonesia, Ireland, Lithuania, Seychelles

2019 Chili, China Hong Kong, the Netherlands

2020 Egypt, Germany, Hungary, Sweden

2021 Spain, Korea, Serbia, UK, Italy, Colombia

Annual issuance of green bonds could surpass USD1tn in 2023 even with modest growth forecast



Source: Climate Bonds Initiative

S&S volume is growing rapidly and comprised 47% of total GSS debt issuance with USD233.3bn issued in H1 2021. Total S&S issuance stood at USD867bn. This represented an 18% year-on-year increase (H1 2020: USD197bn).

Bonds issued under the social theme saw the sharpest increase, as their volume quadrupled in H1 2021 compared to H1 2020 from USD36.8bn to USD146.6bn. Sustainability bond issuance recorded 20% year-on-year growth. Social bonds related specifically to funding Covid-19 mitigation and/or recovery were absent in H1 2021 while in the first half of 2020 they amounted to USD88bn.

Government-backed entities were the most common public sector issuer type, constituting 56% of S&S issuance in H1 2021. Financial and non-financial corporates represented 14% and 13% of the segment's volume in this period, respectively. Development banks followed closely with 12% of issuance. The smallest shares of S&S volume in H1 2021 were reported by local governments (4%) and sovereigns (1%).

The European Union was responsible for just under a quarter of S&S issuance thanks to the continuation of its SURE (Support to mitigate Unemployment Risks in an Emergency) programme, with a total of USD56.1bn. The top sustainability issuer was the World Bank (IBRD), with USD7.7bn contributing 3% of S&S volumes.

Top 10 S&S issuers in H1 2021

Label theme	Name	Country	Amount issued H1 2021 (USD equivalent)
Social	**1. European Union**	Supernational	56.1Bn
Social	**2. Caisse d'Amortissement de la Dette Sociale**	France	36.8Bn
Social	**3. UNEDIC ASSEO**	France	9.7Bn
Sustainability	**4. World Bank(IBRD)**	Supernational	7.7Bn
Social and Sustainability	**5. Government of Chile**	Chile	6.2Bn (3.2bn social, 3.0bn sustainability)
Sustainability	**6. State of North Rhine-Westphalia Germany**	Germany	4.3Bn
Sustainability	**7. Toyota Motor Group**	Japan	4.0Bn
Sustainability	**8. Asian Infrastructure Investment Bank**	Supernational	3.9Bn
Sustainability	**9. BNG Bank**	Netherlands	2.6Bn
Sustainability	**10. Islamic Development Bank**	Supernational	2.5Bn

Source: Climate Bonds Initiative

Climate Bonds puts forward a framework to facilitate transition-labelled finance

To build credibility, attract investors and substantially expand the sustainable finance market to fund the transition of the highest emitters, ambitious and robust transition commitments, and the ability to deliver on those commitments are needed.

A set of transition principles were featured in the 2020 discussion paper *Financing Credible Transitions*[6], and a subsequent series of blog posts. The overarching characteristics of a credible transition can be summarized as follows:

Ambitious–this means in line with 1.5 degree warming limits as defined by the climate science, and delivering action, not just promises;

Flexible–applicable to whole entities, everything they do, and a range of associated financial products;

Inclusive–allow all sectors and activities to participate as long as they demonstrate compliance with the principles and framework outline.

Climate Bonds' report *Transition Finance for Transforming Companies* focused on the hallmarks of a credible company-wide transition. This lays the foundation for the assessment and certification of instruments like SLBs.

Mechanisms that are already being used in the sustainable fixed income markets for transition are either at the entity-level (SLBs) or at asset and activity level (green and transition bonds).

SLBs

SLBs are forward-looking, performance-based debt instruments, with issuing cost linking to specific Key Performance Indicators (KPIs) and Sustainability Performance Targets (SPTs) at the entity level.

The rapid uptake of this instrument type is the result of a broadening range of entities seeking access to sustainable finance that is not immediately tied to a specific pool of eligible projects. Indeed, the first half of 2021 saw the SLB market segment exponentially soar amounting to USD32.9bn, representing 6% of total labelled debt issuance of USD496.1bn. In contrast, no SLB issuance was recorded in the equivalent period of H1 2020.

Transition bonds

Transition bonds are designed to allow high emitters to fund their shift towards cleaner, more sustainable operations and strategies on the way to net zero. The transition bond segment remains nascent: we found that only five transition bonds (USD2.2bn) were issued in H1 2021, and 18 altogether (USD6.4bn).

The most prolific corporate issuer was the Italian energy infrastructure company SNAM, which issued a EUR750m (USD909m) dual tranche bond. The proceeds of the deal will be used to fund emission reductions, renewable energy, energy efficiency, green construction projects and the retrofit of gas transmission network to make it ready for lower-emission alternatives, including hydrogen. All these activities will contribute to the company's 2040 carbon neutrality goal.

Top 5 Sustainability-linked issuers in H1 2021

Name	Country	Amount issued H1 2021 (USD equivalent)
Enel Energy International NV	Italy	3.9bn
Enbridge Inc	Canada	1.5bn
Fomento Economico Mexicano SAB de CV	Mexico	1.5bn
Eni SpA	Italy	1.2bn
China Construction Bank Corporation	China	1.2bn

Source: Climate Bonds Initiative

3. China's sustainable debt market

Overview: Rapid expansion by volume and by type

Domestic issuance by Chinese issuers

According to Wind, as of the first half of 2021, the cumulative issuance of domestic labelled GSS debt was RMB3.3tn,[i] mainly comprising green bonds (including carbon neutral bonds and blue bonds) with total volumes of RMB1.41tn, accounting for 42.7% of all GSS bonds; SLBs were launched domestically in 2021, and reached RMB18.4bn by the end of H1 2021. Bonds issued under the social theme included poverty alleviation bonds (RMB282.628bn); rural revitalisation bonds (RMB47.745bn); and pandemic bonds (RMB1.54tn) which accounting for 46.7% of all GSS bonds.

Green bond market

Domestic market

According to the definition of the relevant regulatory authorities in China, green bonds are marketable securities that are issued in accordance with the statutory procedures and have agreed to repay principal and interest, **with the funds raised being used exclusively to support green industries, green projects or green economic activities that meet the prescribed conditions**.[ii]

China's exchange market was established in the early 1990s. In 1997, for the purpose of preventing irregular flows of bank funds into the stock market, the State Council decided to withdraw commercial banks from the exchange repo market and required them to carry out repo operations in a newly set-up interbank market. In the same year, an electronic bond trading system was launched in the interbank market, which marked the official formation of anational interbank bond market.

The exchange market and interbank market were wet up with different mandates and fell under the jurisdiction of different ministries. This fragmented situation continues today. In 2020, China's Securities Law was revised, but it still only takes effect on enterprise bonds and corporate bonds, leaving regulation of financial bonds and non-financial debt instruments unmentioned. As a result, each bond issuer type is under the supervision of a different Chinese authority.

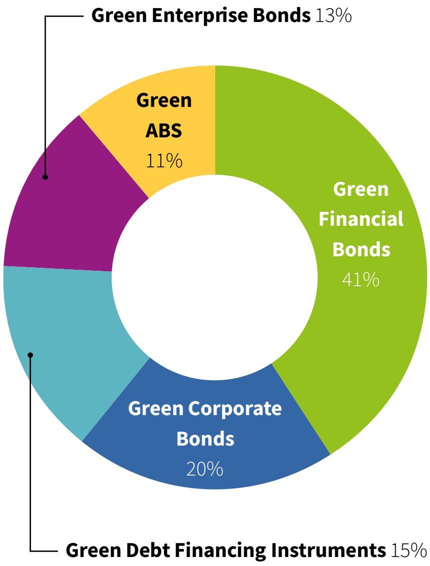
China's supervisory authorities on green bonds by issuer type

Green bond issuer type	Supervisory Authority
Financial bonds	People's Bank of China (PBoC)
Enterprise bonds	National Development and Reform Commission
Corporate bonds and corporate ABS	China Securities Regulatory Commission
Debt financing instruments and asset backed notes	National Association of Financial Market Institutional Investors (NAFMII)
Credit ABS	China Banking and Insurance Regulatory Commission (CBIRC)

Primary market issuance

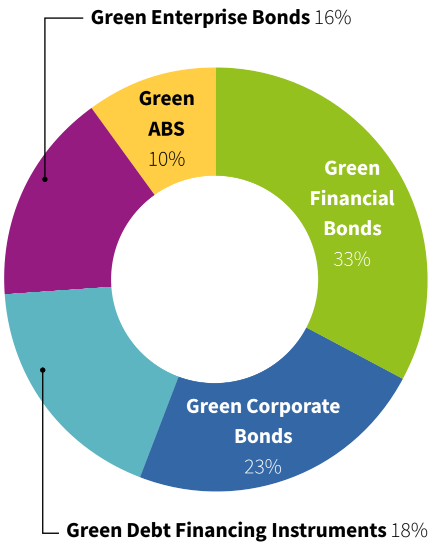
Cumulative issuance and outstanding: According to Wind database, by the end of June 2021, the cumulative issuance of labeled green bonds in China's domestic market reached RMB1.4tn with RMB1tn outstanding. The structure of this is shown below.

Cumulative issuance and structure of China's domestic green bond market



Note: Statistics as at end of June 2021
Source: Wind, CIB Research[iii]

Outstanding structure of China's domestic green bond market



Note: Statistics as at end of June 2021
Source: Wind, CIB Research[iii]

i. Note: a very small amount of sustainable bonds are also labeled as green, but given the small size , it is negligible.
ii. Note: Definitions are from the Notice on the Issuance of < Green Bond Endorsed Projects Catalogue (2021 Edition)> (Yinfa [2021] No. 96) jointly issued by the People's Bank of China, the National Development and Reform Commission and the China Securities Regulatory Commission on 21 April 2021.
iii. CIB Economic Research and Consulting Co., Ltd. (CIB Research) is a wholly-owned subsidiary of the China Industrial Bank.

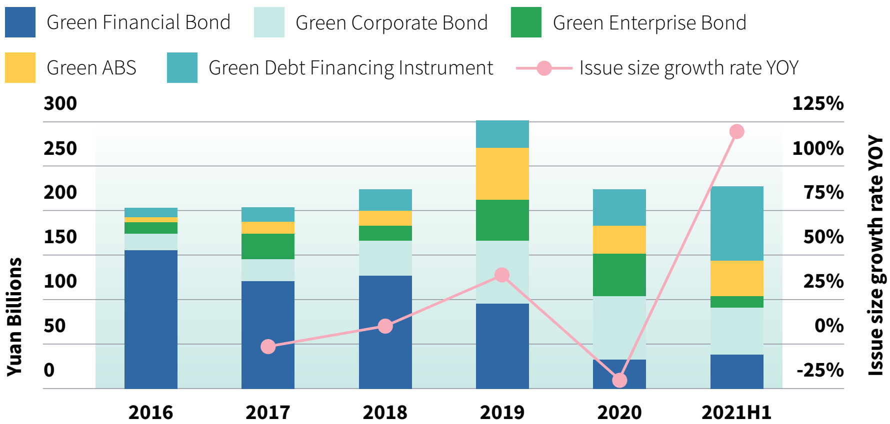
Annual issuance trends:

1. China's green bond market has maintained relatively rapid growth in recent years. 2017 to 2019 saw a continuous increase in the annual issuance of China's domestic green bond market. The issuance was flat in 2020 due to Covid-19, with the scale dropping to RMB229.3bn for the whole year, a decrease of 24.2% compared to 2019. Momentum picked up in early 2021, with H1 2021 issuance reaching RMB245.3bn, 7% higher than the total in 2020.

2. The share of non-financial corporate has continued to increase surpassing that of financial institutions. As recently as 2018, China's green bond issuance had been dominated by financial institutions which accounted for more than 50% of total issuance. However, the share of financial institutions has declined annually dropping from 77% to 14.7% between 2016 and 2020. Most of the previously issued financial debts are not yet due to refinance, and non-financial institutions are increasingly financing through green debts. The fastest increase in issuance occurred in green corporate bonds, which rose from 9% to 32% of the total, followed by green enterprise bonds, which rose from 7% to 21%. Green debt financing instruments and green asset-backed securities also recorded rapid growth from 4% and 3.3% to 17.6% and 14.7% respectively during 2016-2020. In H1 2021, the momentum of non-financial green bond issuance remained strong, especially in green debt financing instruments, with the issuance reaching RMB97.7bn and accounting for 39.8% of the total. Green corporate bonds followed with an issuance of RMB47bn, accounting for 19%.

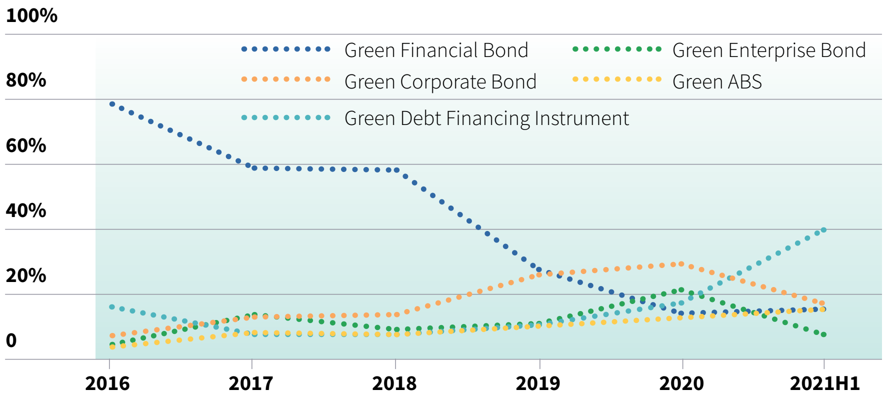
Tenor: As of the end of June 2021, the largest tenor brackets for green bonds issued in China's domestic market (excluding green ABS) are 3Y and 5Y, with a combined issuance of 73% of the total.

China's green bond market will continue to grow



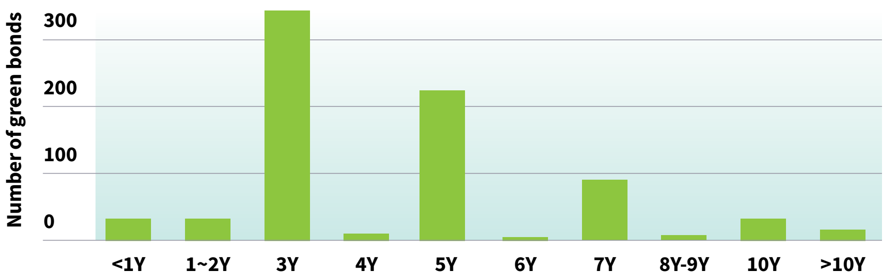
Source: Wind, CIB Research

Financial green bonds' share drops, while green corporate bonds' increases



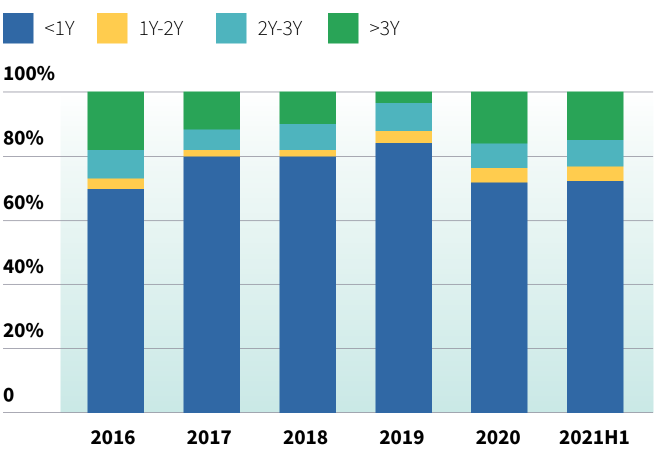
Source: Wind, CIB Research

Most green bonds have tenor of 3Y or 5Y



Source: Wind, CIB Research

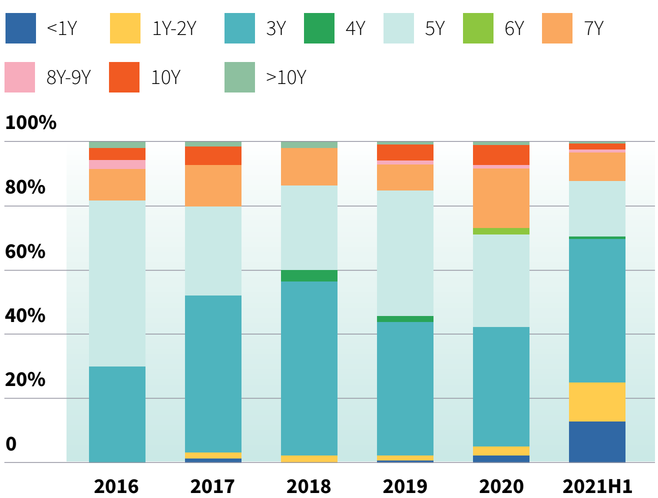
Short-term bonds make up majority of China's overall bond market



By number of bonds

Source: Wind

Green Bond Tenor Distribution (2016 - H1 2021)



By number of bonds

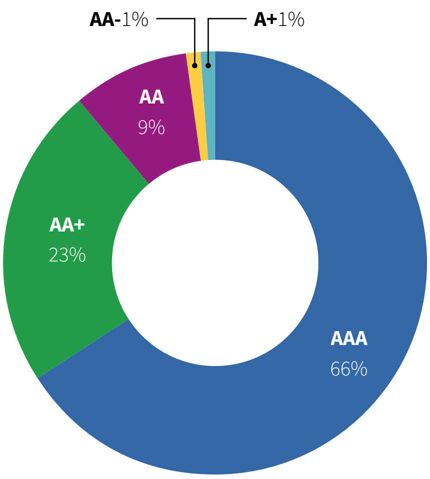
Source: Wind, CIB Research

Ratings: The overall debt rating of green bonds is high, and the percentage of bonds with high ratings continues to rise. As of the end of June 2021, the percentage of publicly offered green bonds (excluding green ABS and policy bank bonds) issued in China's domestic market with debt rating of AA or above exceeded 98% of the total issuance. In terms of trend, the percentage of green bonds with high ratings has been on the rise since 2017. In 2017, green bonds issuance with AAA debt rating was at 62% of the total, while by H1 2021, the figure had reached 84%.

Distribution of issuers by economic activity[7]**:** As of the end of June 2021, apart from green financial bonds, the issuers of China's green bonds (excluding green ABS) were mainly concentrated in sectors of Electricity (RMB176bn, 98 bonds), Construction and Engineering (RMB97.4bn, 132 bonds), Highways and Railtracks (RMB67.1bn, 50 bonds), Industrial Conglomerates (RMB58.4bn ,71 bonds), Railroads (RMB46bn, 27 bonds), New Energy Power Producers (RMB42bn, 35 bonds) and Water Utilities (RMB34bn, 37 bonds).

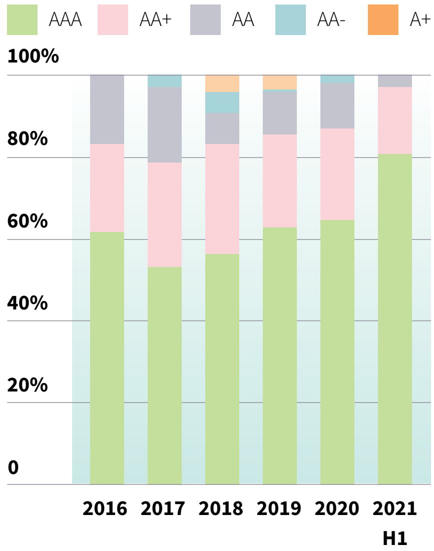
Regional distribution of issuers: By the end of June 2021, the region with the largest number of green bonds issuance (excluding green ABS) was Beijing (RMB369.4bn), with Fujian Province (RMB142.6bn) and Shanghai (RMB113.1bn) following.

Overall rating of green bonds is high (as of end June 2021)



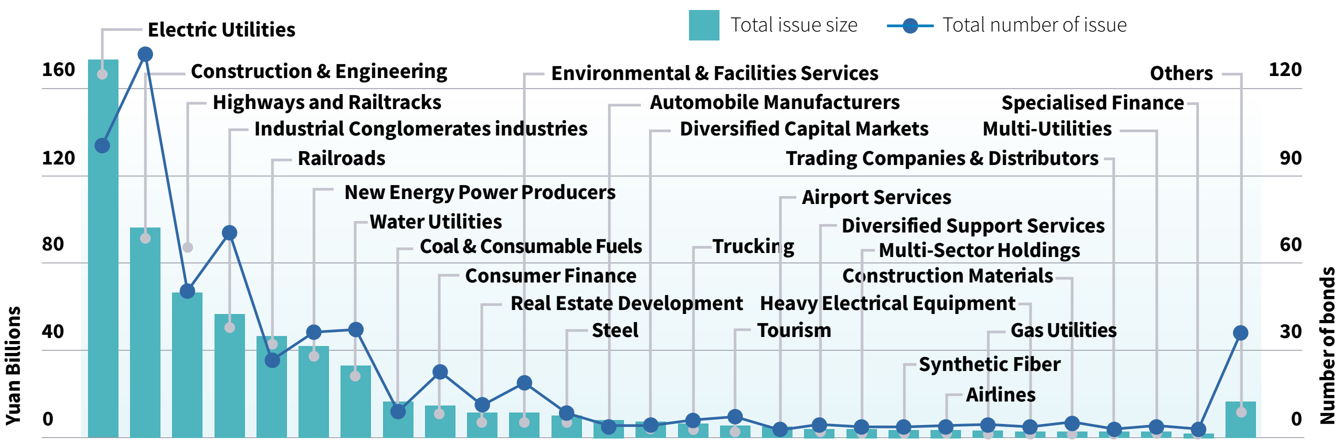
Source: Wind, CIB Research

Debt rating distribution (2016-2021 H1)



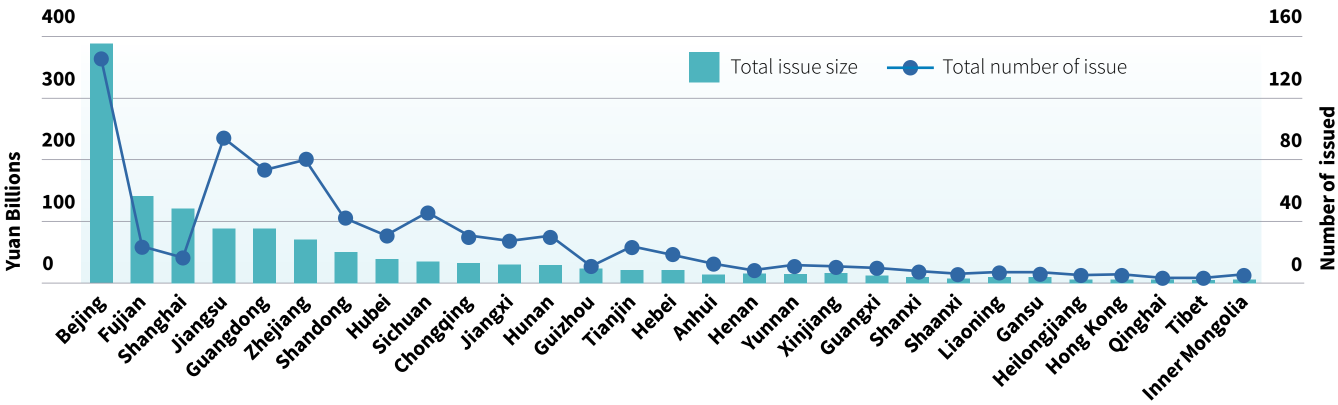
Source: Wind, CIB Research

Electric utilities sector leads non-financial green bond issuance among industries



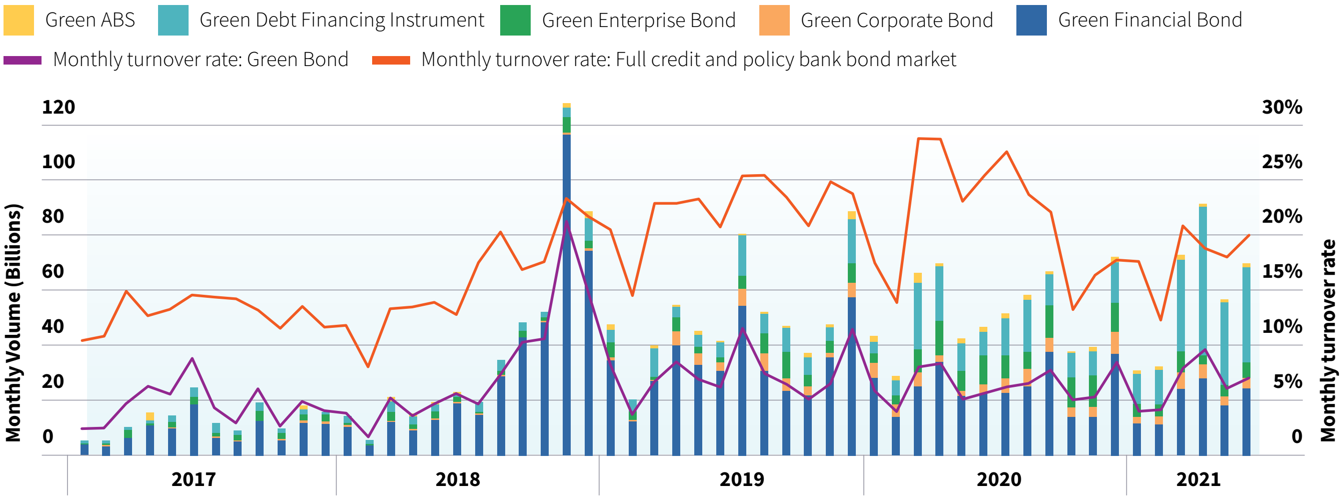
Note: It refers to WIND Industry Level 4 Classification.
Source: Wind, CIB Research

Beijing leads green bond issuance among regions



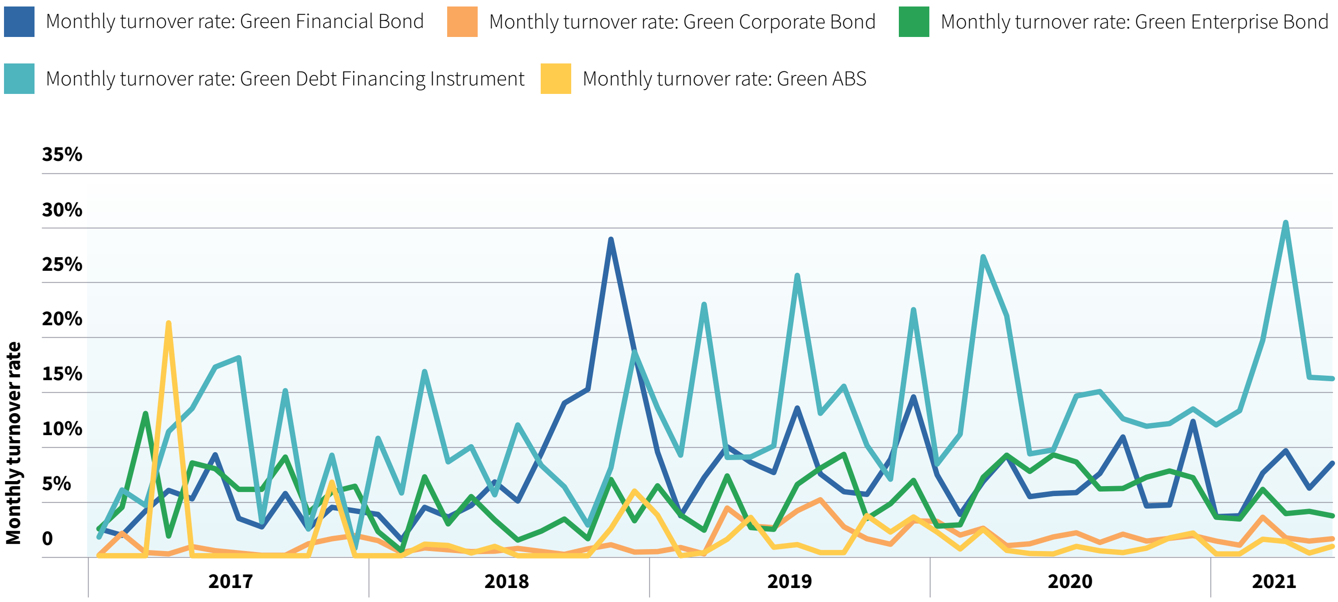
Source: Wind, CIB Research

Turnover rate of green bonds generally lower than that of full credit and policy bank bonds



Note: The formula for calculating the turnover rate is "turnover rate = monthly volume / outstanding".
Source: Wind, CIB Research

Turnover rates of green financial bond and green debt financing instruments relatively higher than others



Note: The formula for calculating the turnover rate is "turnover rate = monthly volume / outstanding".
Source: Wind, CIB Research

Secondary market liquidity

Prior to H12018, liquidity in the secondary green bond market was at a low level. However, from H2 2018 it increased dramatically. Though falling back slightly in 2019, the monthly averaged liquidity remained above the 2017 level.

In terms of turnover rates, the monthly turnover rates of green bonds were generally lower than that of the credit bonds and policy financial bonds;[i] Among all types of green bonds, the monthly turnover rates of green debt financing instruments and green financial bonds were relatively higher.

i. Note: All credit bonds include commercial bank bonds and exclude interbank depository receipts. Since green bonds include policy financial bonds, the benchmarks for comparison are all credit bonds and policy financial bonds.

Innovative green sublabels

Carbon neutral bond

The NAFMII is the first to launch a carbon neutral bond as an innovative sub-label of Green Debt Financing Instruments.

On 18 March 2021, the NAFMII issued the Notice on Clarifying the Mechanisms Relating to Carbon Neutral Bonds (the Notice), which clarified the definition of carbon neutral bonds as sub-label of green debt financing instruments, the UoP, the assessment and selection of projects, the management of proceeds, and management of information disclosure in the duration of bonds.

A carbon neutral bond is defined as a debt financing instrument that raises funds specifically for green projects with carbon emission reduction benefits. It should meet four core requirements in UoP, project assessment and selection, management of proceeds, and information disclosure in the duration of bonds. It is designed to channel funds towards green, low-carbon and cyclical sectors, and help China achieve its stated target of carbon neutrality.

Stock Exchange clarification of requirements relating to green corporate carbon neutral bonds.

On 13 July 2021, the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE) issued the *Guidelines No.2 for Rules in Reviewing the Listing of Corporate Bonds in the Shanghai Stock Exchange – Specific Corporate Bond Types (Revised in 2021)"* and the *"Guidelines No.1 for Operations of Innovative Corporate Bond Types Listed on the SZSE - Green Corporate Bonds (Revised in 2021)* respectively, which added the relevant arrangements for green corporate carbon neutral bonds.

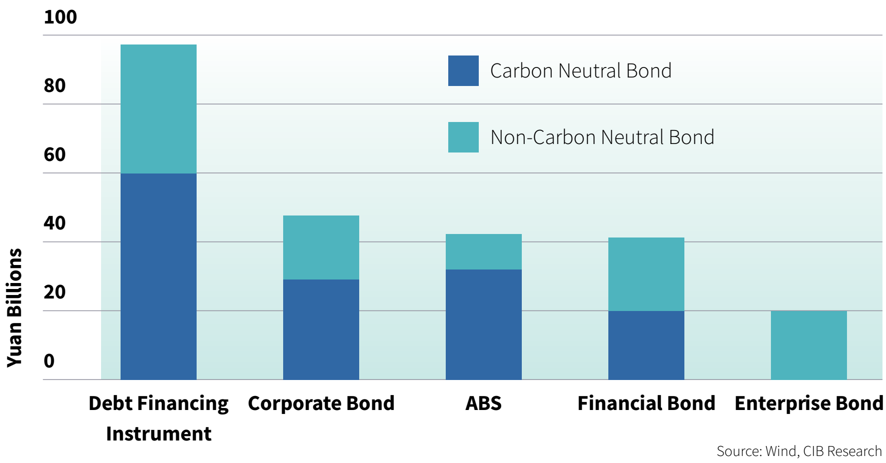
Requirements for Carbon Neutral bonds

	NAFMII	**SSE and SZSE**
Name of bond	**Carbon Neutral Bond**	**Carbon Neutral Green Corporate Bond**
Eligible project types	Construction, operation, or acquisition of green projects such as: clean energy; clean transportation; sustainable building and low-carbon industrial renovation; or repayment of interest-bearing debt of green projects	Construction, operation, acquisition of carbon neutral projects, or repayment of loans for carbon-neutral projects
Eligible UoP categories	Including but not limited to **1. clean energy projects** (including solar energy, wind power and hydropower projects); **2. clean transportation projects** (including urban rail transportation, electrified freight railways and electric bus vehicle replacement projects); **3. sustainable building projects** (including green buildings, ultra-low energy consumption buildings and energy-saving renovation of existing buildings); **4. low-carbon industrial renovation projects** (carbon capture, utilisation and storage; industrial energy efficiency improvement and energy-saving renovation); **5. other projects with carbon emission reduction benefits.** Above must be in alignment with the Green Bond Endorsed Project Catalogue or the International Green Industry Classification Standard, and focus on the low-carbon and carbon emission reduction fields.	Including but not limited to **1. clean energy projects** (including solar energy, wind power and hydropower projects); **2. clean transportation projects** (including urban rail transportation, electrified freight railways and electric bus vehicle replacement projects); **3. sustainable building projects** (including green buildings, ultra-low energy consumption buildings and energy-saving renovation of existing buildings); **4. low-carbon industrial renovation projects** (carbon capture, utilisation and storage; industrial energy efficiency improvement and energy-saving renovation); **5. other projects with carbon emission reduction benefits.**
Project assessment and selection	Issuers should disclose specific information about projects that will be funded through the carbon neutral bond, and ensure that the funds raised are used for low carbon and/or carbon emission reduction sectors. If there are no specific projects in the registration process, the issuer may disclose in the registration document the status of green assets in stock, the status of green projects under construction, the types and areas of green projects to be invested in, and the method of measuring the environmental benefits of the corresponding project types, and undertake to disclose the following information in the offering document: quantitative measurement of environmental benefits, measurement methods and effects, and encouragement of disclosure of carbon reduction plans.	Issuers should strengthen the disclosure of information relating to the environmental benefits of carbon neutral projects, and in accordance with the principle of "calculable, verifiable and testable", focus on disclosing the method of environmental benefits measurement, the reference basis, and the quantitative measurement of environmental benefits such as energy savings (in terms of standard coal) and carbon emission reduction of the projects.
Management of proceeds	Issuers should **1.** set up accounts under supervision **2.** manage idle funds properly **3.** conduct regular checks.	
Information disclosure for the life of the bond	**1.** UoP; **2.** progress of green and low-carbon projects; **3.** actual or expected carbon emission reduction benefits in the previous year and the first half of the current year by 30 April and 31 August each year respectively.	The issuer is encouraged to disclose the carbon neutral project's carbon emission reduction and other environmental benefits assessment and certification report issued by an independent third-party organisation when disclosing the regular report on carbon neutral green bonds or at important points such as completion of feasibility study, obtaining construction permit or commencement of construction.

On 7-8 February 2021, the NAFMII supported six enterprises to concurrently issue the first batch of carbon neutral bonds, all of which are medium and long-term bonds with tenor of at least two years. The issuance amount was RMB6.4bn, and the lead underwriters included four financial institutions: ICBC, Bank of China, Bank of Construction, and Industrial Bank. The UoP categories were photovoltaic, hydropower, wind power, green buildings, and other projects, which were expected to reduce carbon dioxide emissions by 41.6 million tons per year.

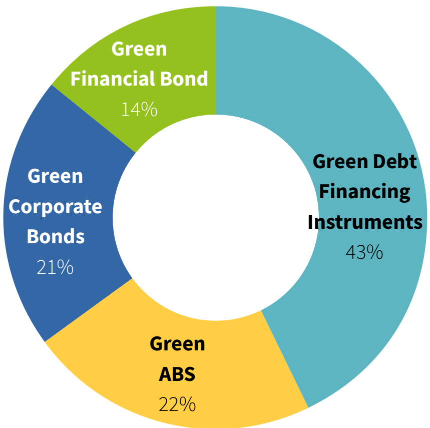
The cumulative issuance of carbon neutral bonds reached RMB140.6bn by the end of June 2021, accounting for 57.3% of the total amount of green bonds issued in the H1 2021.

Carbon neutral bonds account for 57% of green bond issuance in H1 2021



Source: Wind, CIB Research

Issuer types of carbon neutral bonds issued in H1 2021



Source: Wind, CIB Research

Blue bond

In China, the marine economy occupies an important position, with the share of gross marine product contributing 9% to the GDP, rising to 17.1% in coastal areas. The protection of the ocean is also closely related to climate change. In light of this, actively promoting blue bonds was first proposed in the *Guidance on Promoting the High-Quality Development of the Banking and Insurance Industry* issued by the CBIRC on 3 January 2020.

Relevant arrangements for blue bonds were outlined by both SSE and SZSE in the guideline documents published on 13 July 2021 (referenced above). Issuers may add blue bond to the full name of bond in the applying and issuing stage, if the funds raised are mainly used to support projects relating to **marine conservation and sustainable use of marine resources.** Issuers disclose information describing the impact of relevant projects on the marine environment, marine economy, and climate benefits.

Globally, blue bonds are still in the nascent stage.

In September 2020, the Bank of China issued a blue bond in the overseas market, as the pioneer among Chinese and global commercial institutions, raising funds to support marine related sewage treatment projects and offshore wind power projects.[8] One month later, the Industrial Bank Hong Kong Branch successfully issued a 3Y USD-denominated fixed-rate blue bond in the international capital market. It was the first blue bond (marine and water conservation) issued by a Chinese joint-stock bank in the overseas market.[9]

In the domestic market, as of June 2021, there were two blue bonds with a total volume of RMB1.3bn. In November 2020, Qingdao Water Group issued China's first blue bond, independently underwritten by Industrial Bank. The RMB300m 3Y had proceeds earmarked for the construction of desalination projects.[10]

Green local government bonds

China has not published clear management requirements for green local government bonds, but according to the *Green Financial Evaluation Program for Banking Financial Institutions* issued by the PBoC on 10 June 2021, **local government special-purpose bonds certified as green by green bond evaluation and certification agencies** were included among the green bond holdings.

In June 2019, China's first green municipal special-purpose bond Jiangxi Ganjiang New Area Green Municipal Special-purpose Bond (Phase I) debuted on the SSE. The RMB300mn, 30Y deal was rated AAA and offered a coupon rate of 4.11%. Through this vehicle, there are plans to raise a total of RMB1.25bn in three phases, and the funds raised will be managed by Jiangxi Provincial Government, for the construction of the Xingye Avenue Project of the No.1 Integrated Corridor of Rule Lake New City and the Intelligent Corridor Project of Rule Lake New City.[11]

In May 2020, the first green government special-purpose bond in the water resources sector in China, the 2020 Pearl River Delta Water Resources Allocation Project Special-purpose Bond (green bond), was issued on the SZSE. The RMB2.7bn bond had a tenor of 10Y, and a coupon rate of 2.88%. This was the first green government bond issued by the Guangdong Provincial Government and the first green government bond in the water resources sector in China. The proceeds were earmarked for the construction of the Pearl River Delta Water Resources Allocation Project, and the project company is located in Nansha New District, Guangzhou.[12]

In addition, a large number of local government special-purpose bonds that specifically support green development have been issued in China. Although they are not labelled as green, the use of proceeds largely falls into green bond UoP categories, such as bonds financing transportation infrastructure, energy projects, agriculture, forestry and water conservation, ecological and environmental protection projects, municipal and industrial park infrastructure, major national strategic projects.

According to the Wind database, in 2020, the scale of local government special-purpose bonds issued specifically for green projects reached RMB328.6bn, a significant increase of 317.1% year-on-year. In H1 2021, it had dropped to RMB45.4bn, compared to the same period in 2020.

SLBs

The NAFMII clarifies the arrangements relating to SLBs

In April 2021, the NAFMII launched SLBs. According to the released *10 Questions and Answers*[13] *on SLBs,* these are debt financing instruments that link the terms of the bond to the issuer's sustainability goals.

The **linked targets include KPIs and SPTs** where KPIs are sustainability performance indicators that are central to the issuer's operations, and SPTs are quantitative assessment targets for KPIs and are subject to clear timelines. Third party institutions are obliged to verify the relevant indicators, and if the KPIs do not meet the predetermined SPTs within the given timeframe, an adjustment to the terms of the bond will be triggered. It should be disclosed in the prospectus that no changes are allowed to be made on the linked target and the terms and conditions of the bond by the issuer. If there are indeed changes to be made due to the macroeconomic and policy environment, during the life of the bond, any such measures should be disclosed via means including but not limited to, the convening of a holders' meeting and the issuance of a special report by a third-party institution.

The UoP can be for general purposes. However, if combined with innovative products such as green debt financing instruments and rural revitalisation notes, the UoP should meet the requirements of special products and be used for green projects or rural revitalisation.

There are no specific requirements or restrictions on the **bond structure,** and they may include a coupon rate increase (or decrease), early maturity, or one-off additional payment, etc.

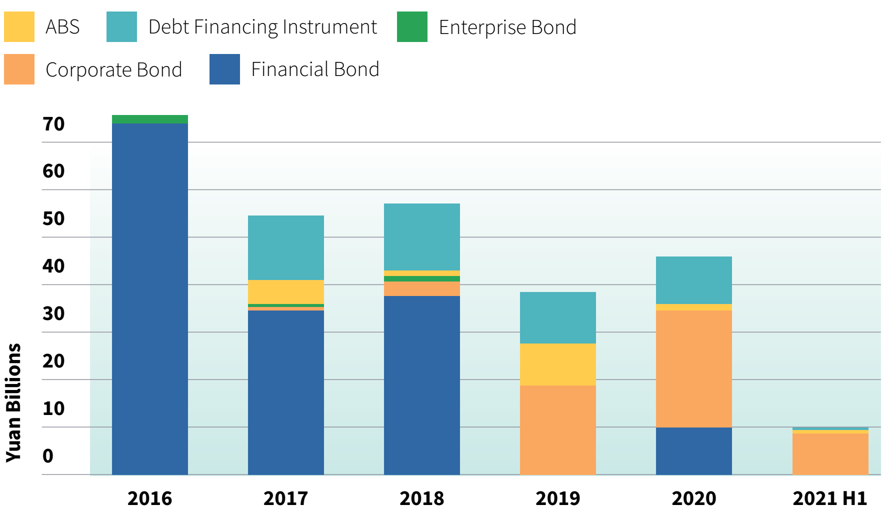
The Stock Exchange encourages the issuance of SLBs under the Green Corporate Bond

On 13 July 2021, the SSE and SZSE issued the *Guidelines No.2 for Rules in Reviewing the Listing of Corporate Bonds in the SSE–Specific Corporate Bond Types (Revised in 2021)"* and the *"Guidelines No.1 for Operations of Innovative Corporate Bond Types Listed in the SZSE - Green Corporate Bonds (Revised in 2021)* respectively, both of which propose to **encourage issuers of green corporate bonds to link bond terms to the achievement of their overall carbon emission reduction and other environmental benefit targets**.

On 10 May 2021, China Huaneng, Datang International, Yangtze River Power, Guodian Power, Shaanxi Coal Group, Liugang Group and Red Lion Group, successfully issued the first batch of seven SLBs in the China's interbank market, with a combined amount of RMB7.3bn.

In H1 2021, 12 SLBs were issued, with a total volume of RMB18.4bn. These bonds include a variety of targets and penalties. For example, Guodian Power has set a pegged target of an increase of not less than 11.9% in the issuer's new installed wind power capacity by the end of 2022 compared to the end of 2020, and if the target is not met, the coupon rate will increase by 20bps in the third year.

Issuance of special-purpose bonds for poverty alleviation (2016-H1 2021)



Source: Wind, CIB Research

Poverty alleviation bonds and rural revitalisation bonds

No Poverty is the first of the UN's 17 Sustainable Development Goals (SDGs) and is an important component of sustainable development globally as well as in China. Poverty alleviation bonds and rural revitalisation bonds are closely related to the goal of poverty eradication and are therefore an important part of China's sustainable bond market.

Poverty alleviation bonds

In November 2015, the Central Committee of the Communist Party of China (CPC) and the State Council issued *the Decision on Winning the Battle against Poverty (Zhong Fa [2015] No. 34),* proposing "to increase financial support for poverty alleviation. Encourage and guide all kinds of financial institutions including commercial, policy, development and cooperative ones to increase their financial support for poverty alleviation. The China Development Bank and the Agricultural Development Bank of China will issue policy financial bonds and grant long-term loans in the principle of slight profit or capital preservation, with the central government granting a 90% interest subsidy on the loans, to be used specifically for poverty alleviation and relocation." To this end, in March 2016, the PBoC and seven other departments jointly issued the *Implementation Opinions on Finance Supporting Poverty Alleviation*. Since then, special-purpose financial bonds for poverty alleviation, special-purpose corporate bonds for poverty alleviation, revenue bonds for poverty alleviation projects, special-purpose notes for poverty alleviation, and special-purpose ABS for poverty alleviation and many others have been launched.

All types of poverty alleviation bonds

Special-purpose financial bonds for poverty alleviation
Mainly issued by two major policy banks, China Development Bank and Agricultural Development Bank of China, to raise funds for granting loans for poverty alleviation and relocation. In April and July 2016, the Agricultural Development Bank of China and China Development Bank issued special-purpose financial bonds for poverty alleviation of RMB10bn and RMB5bn respectively for the first time in the interbank market.

Special-purpose corporate bonds for poverty alleviation
In May 2018, the SSE and the SZSE issued the *Q&As on Corporate Bond Financing Supervision of the Shanghai Stock Exchange – Special-purpose corporate bonds for poverty alleviation*" and the *"Q&As on Special-purpose corporate bonds for poverty alleviation of the SZSE* respectively, which clearly define special-purpose corporate bonds for poverty alleviation as those meet one of the following two conditions: (1) Corporate bonds issued by enterprises domiciled in key counties of national poverty alleviation, concentrated hardship areas, or deep poverty area (poverty areas); Or corporate bonds issued by enterprises registered in areas where poverty has been removed but not for three years. (2) Corporate bonds where the issuer's registered office is not in a poverty area, but the funds raised are mainly used for the construction, operation, acquisition or repayment of loans for precise poverty alleviation projects. Precise poverty alleviation projects refer to poverty alleviation projects where the project location is in a poverty area and can effectively help the profiled poverty-stricken population. Funds raised are encouraged to be used for precise poverty alleviation projects such as infrastructure construction, relocation of the poor, industrial poverty alleviation, employment, and ecological and environmental protection projects. The amount to be used for precise poverty alleviation projects as determined in the prospectus should not be less than 50% of the proceeds, and the remaining can be used for working capital or repayment of loans, etc.

Revenue bonds for poverty alleviation projects
In September 2015, the National Development and Reform Commission identified Cangxi County in Sichuan Province as in the first batch of pilot counties to issue[15] revenue bonds for poverty alleviation and relocation projects. Revenue bonds for poverty alleviation and relocation projects are a type of enterprise bonds (under the authority of the NDRC), which are issued for direct financing mainly through the establishment of companies for relocation projects for residents of poverty areas.

Poverty alleviation notes and ABN
In 2019, the NAFMII issued *the Guidelines on Poverty Alleviation Notes for Non-financial Enterprises*[16] , which clarify that poverty alleviation notes refer to debt financing instruments issued by non-financial enterprises as legal entity (enterprises) in the interbank market to raise funds for the purpose of precise poverty alleviation. The precise poverty alleviation purposes of enterprises should be in line with the requirements of the PBoC for financially precise poverty alleviation, and precisely support the poverty alleviation work of the profiled poor population. The Guidelines also propose to encourage enterprises to issue debt financing instruments linked to the benefits of precise poverty alleviation projects, ABN backed by cash flows generated from precise poverty alleviation projects, and other innovative products in line with the national policy on precise poverty alleviation.

Market situation
According to the Wind database, as of June 2021, the cumulative issuance of China's special-purpose bonds for poverty alleviation was RMB282.6bn, of which RMB158.8bn, RMB56.5bn, RMB2bn, RMB50.9bn and RMB14.4bn were issued for special-purpose financial bonds for poverty alleviation, special-purpose corporate bonds for poverty alleviation, revenue bonds for poverty alleviation projects (under enterprise bonds), debt financing instruments for poverty alleviation, and ABS for poverty alleviation.

Rural revitalisation debt

In February 2021, the Central Government's document *Opinions on Accelerating the Modernization of Agriculture and Rural Areas by Comprehensively Promoting the Rural Revitalization* was released, stating that the target task of poverty eradication in the new era will be completed on schedule" and "consolidating the results of poverty eradication and effectively link it to rural revitalization. In order to implement the requirements of the Central Government, under the guidance of the PBoC, the NAFMII launched the Rural RevitalisationNote on 15 March 2021. The Rural Revitalisation Note restates the policies and standards of the former Poverty Alleviation Note. On 13 July 2021, the SSE and the SZSE also clarified the requirements for rural revitalisation corporate bonds, which refer to publicly or non-publicly listed corporate bonds that raise funds for consolidating the results of poverty eradication, promoting the development of poverty-eradicated areas and the comprehensive rural revitalisation. According to Wind data, as of June 2021, Chinese entities has issued a total of RMB47.7bn such bonds (excluding local government bonds), among which, the issuance of debt financing instruments reached RMB46.5bn, while corporate bonds and ABS reaching RMB1bn and RMB235mn respectively.

In addition, local governments have also issued some special-purpose bonds for rural revitalisation.. Since the successful pilot issuance of China's first special-purpose bond for rural revitalization in Sichuan Province in August 2018, the cumulative issuance has reached RMB31.6bn as of June 2021.

Green Rural Revitalization bonds are on the rise. Green development and rural revitalisation are China's two national strategies and thus inextricably linked. Green development and ecological comfortability are inherent to rural revitalisation, and green development of agriculture and rural areas is also an important element of China's green development strategy. The NAFMII has also made it clear that "rural revitalisation notes can be registered and issued in conjunction with various types of debt financing instruments to fully adapt to the diversified and customized needs of enterprises. …… market players are encouraged to flexibly mix match various types of debt financing instruments, such as combining green bonds, carbon neutral bonds and other innovative labels to support ecologically environmental protection, green modern agricultural development projects, etc." By the end of June 2021, China had issued seven green rural revitalisation bonds with a combined amount of RMB3.4bn, two of which were also labelled as carbon neutral bonds.

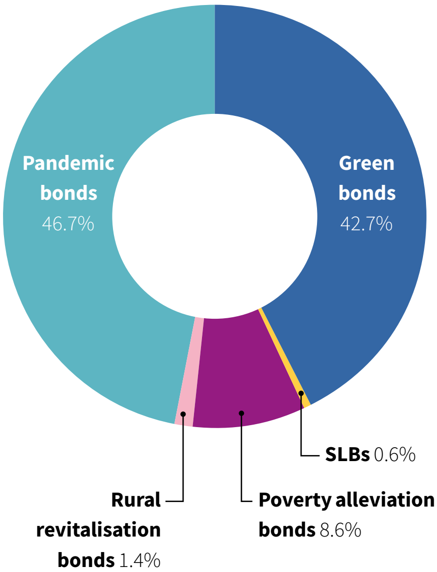
Pandemic bonds

The outbreak of COVID-19 in early 2020 has had a huge impact on global economic and social development. In order for pandemic prevention and control, on 28 January 2020, the NAFMII issued *the Notice on Strengthening Self-Regulatory Services in the Interbank Market and Preventing and Controlling the Pandemic*, proposing that "the NAFMII will set up green channel...... for enterprises registered in Hubei Province and other pandemic-stricken areas, as well as for debt financing instruments with funds used for pandemic prevention and control."

On 1 February 2020, the PBoC, the Ministry of Finance, the CBIRC, the CSRC and the State Administration of Foreign Exchange jointly issued *the Circular on Further Strengthening Financial Support for the Prevention and Control of COVID-19,* proposing to "establish a green channel for the registration and issuance of financial bonds, asset-backed securities and corporate bonds issued by financial institutions and enterprises in pandemic-stricken areas and with funds raised mainly for pandemic prevention and control". On March 27, 2020, the Central Political Bureau meeting decided on the issuance of special treasury bonds. On June 15, the Ministry of Finance issued a notice clarifying that, in order to raise funds and coordinate the pandemic prevention and control, it was decided to issue a total of RMB1tn special treasury bonds, starting from mid-June and completed by the end of July.

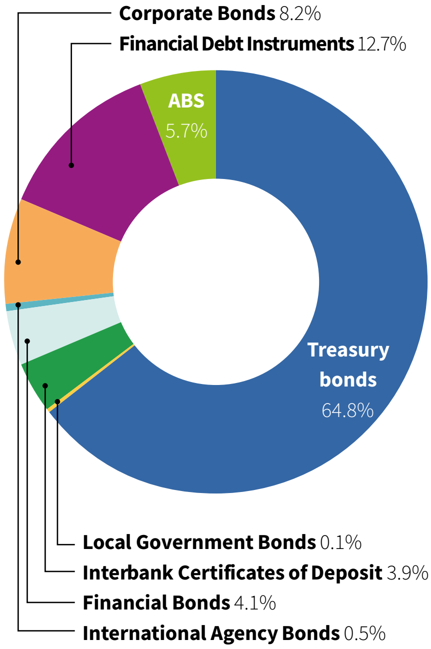
According to Wind data, as of June 2021, the cumulative issuance of China's pandemic bonds (for pandemic prevention and control) reached RMB1.54tn. Among them, the cumulative issuance of special treasury bonds was RMB1tn, in three tranches of 5Y, 7Y and 10Y. The 5Y tranche has been tapped four times to RMB200bn, 7Y tranche has been tapped twice to RMB100bn, and the 10Y tranche has been tapped ten times to RMB700bn. The average coupon rate of the special treasury bonds was 2.77%, ten basis points lower than the average yield of treasury bonds in the secondary market in the previous five days.[14] Apart from special treasury bonds, the cumulative issuance of other pandemic bonds reached RMB543.4bn.

Pandemic bonds comprise nearly half of the cumulative issuance of all GSS bonds as of H1 2021



Source: Wind, CIB Research

Cumulative issuance of pandemic bonds as of June 2021



Source: Wind, CIB Research

Overseas issuance by Chinese issuers

Between 2020 and H1 2021, overseas green bond deals totaled USD9.3bn, while Social and Sustainability bonds reached USD1.0bn and USD7.4bn respectively. Offshore issuance of SLBs was USD6.1bn.

China has been one of the world's largest green bond markets since 2016 but felt the impact of COVID-19 in 2020, with onshore and offshore issuance volumes declining from the prior year. Offshore issuance plummeted by 38% to USD7.8bn (RMB54.6bn), accounting for 18% of the total labeled green issuance of USD44.1bn (RMB289.5bn).

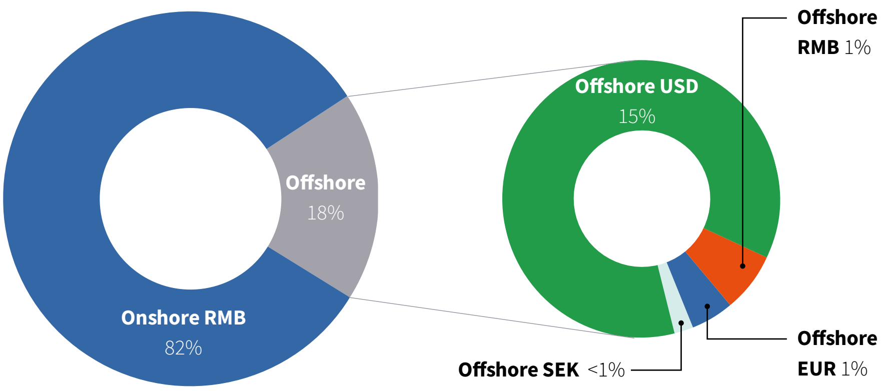
Sixteen issuers raised a total of USD7.8bn (RMB54.6bn) in offshore green bond issuance, 11 of which were new to the overseas green bond market. This mainly comprised real estate developers such as Landsea Green Properties, Yango Justice, Yuzhou Group, and Zhenro Properties, as well as renewable energy operators ENN energy, Concord New Energy, and CIFI Holdings.

Most (86%) of the offshore deals were denominated in USD. EUR ranked second (7%), followed by CNY (5%). Hong Kong Exchange (HKEX) remained the largest listing venue for Chinese offshore green bonds, accounting for 54% of the total offshore volume in 2020. London Stock exchange (LSE) was the second largest offshore market for Chinese deals, with Singapore Stock Exchange (SGX) being the third. The Green Buildings use-of-proceeds (UoP) was the largest recipient of offshore green bond financing (35%), followed by Low Carbon Transport (29%).

Three social bonds were issued from 2020 to H1 2021, with Industrial Bank issuing HKD3bn of social bonds in November 2020 and Bank of China Macau issuing two social bonds of HKD4bn and MOP1bn respectively in March 2020, the proceeds of which were earmarked for health and education.

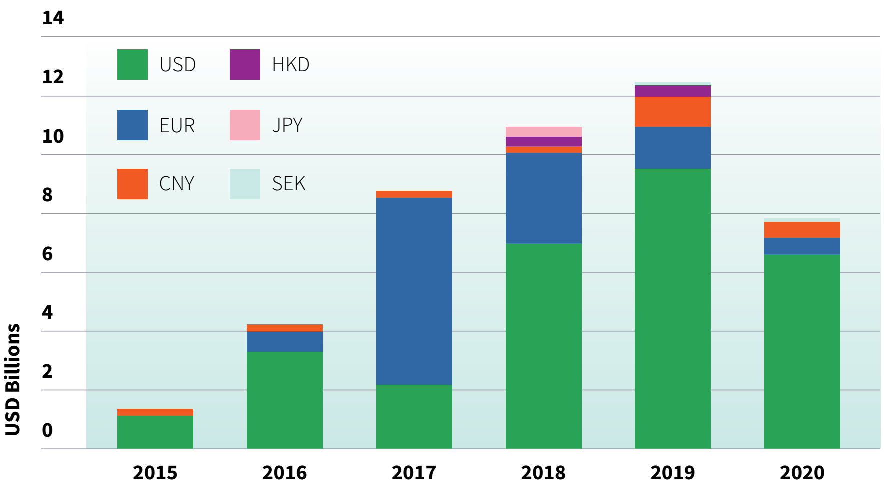
Between 2020 and the first half of 2021, 21 SLBs were issued in the offshore market, with a total issuance of USD6.1bn. The largest issuer is National Grid, with RMB16bn.

Currency denominations of Chinese green bonds in 2020



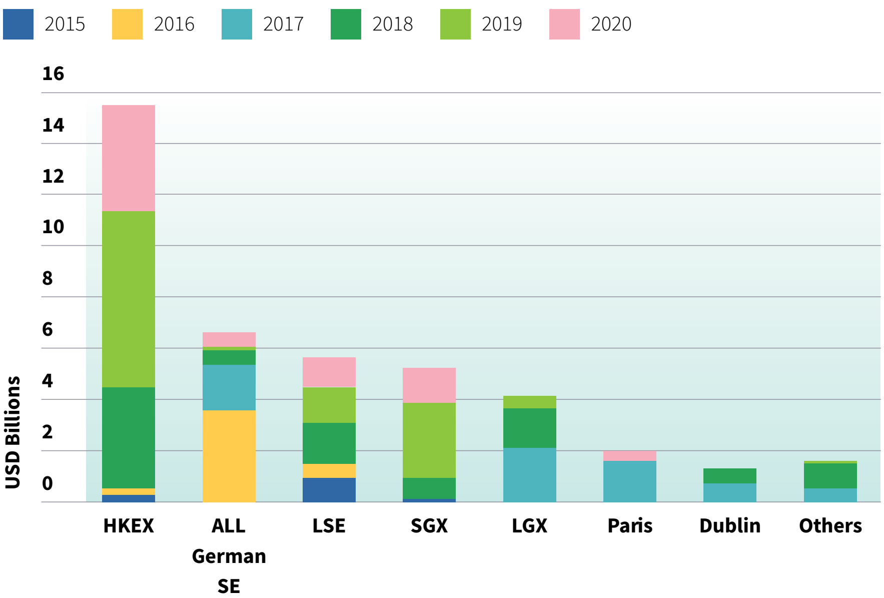
Source: Climate Bonds Initiative

Chinese offshore green bonds by currency



Source: Climate Bonds Initiative

Listing venues of Chinese offshore green bonds



Source: Climate Bonds Initiative

4. Standards and policy incentives/constraints

Developments in China's sustainable bond standards

In March 2020, the General Office of the CPC Central Committee and the General Office of the State Council issued *the Guiding Opinions on Building a Modern Environmental Governance System*, which explicitly proposed to unify domestic green bond standards. On 21 April 2021, the PBoC, the National Development and Reform Commission and the China Securities Regulatory Commission issued *the Notice on the Issuance of the Green Bond Endorsed Project Catalogue (2021 Edition) (the notice)* and released *the Green Bond Endorsed Project Catalogue (2021 Edition) (Catologue (2021 Edition))* which shall come into effect on 1 July 2021. The Catalogue (2021 Edition) defines green bonds as marketable securities that are issued in accordance with statutory procedures and with agreed principal and interest repayments, including but not limited to green financial bonds, green enterprise bonds, green corporate bonds, green debt financing instruments and green ABS, which are used exclusively to support green industries, green projects or green economic activities that meet the prescribed conditions.

The Catalogue (2021 Edition) achieved the unification of disparate green bond standards in China. Its application extends to all types of domestic green bonds: green financial bonds, green enterprise bonds, green corporate bonds, green debt financing instruments and green ABS, putting an end to the disparate green bond standards and facilitating the further development of China's green bond market.

The Catalogue (2021 Edition) achieves alignment with international standards. Whether fossil fuel is recognized as eligible is the key to the alignment of domestic and international standards. The Catalogue (2021 Edition) removes sectors relating to the clean use of fossil fuel and achieves alignment with international standards, which is conducive to attracting international investors to the Chinese green bond market as well as enhancing China's international influence and convening power in green bond standards.

The logic and framework of the Catalogue (2021 Edition) and its main contents are consistent and synergistic with *the Green Industry Guidance Catalogue (2019 Edition)*. In the construction of the green financial standards system led by the PBoC, *the Green Industry Guidance Catalogue* belongs to the scope of General Basic Standards for Green Finance (primary), while the standards for green bonds and green loans are in the scope of Standards for Green Financial Products and Services (secondary). Since March 2019, when the seven ministries and commissions jointly issued the *Green Industry Guidance Catalogue (2019 Edition)*, the unified general basis has been set, and it has served as reference for other standards such as green loan standards and green bond standards. The Catalogue (2021 Edition) is consistent with the six categories of *the Green Industry Guidance Catalogue (2019 Edition)*, with the first-level classification including six categories of energy-saving and environmental protection industry, clean production industry, clean energy industry, ecological and environmental industry, green upgrading of infrastructure, and green services, while its fourth-level classification is consistent with the names in the third-level of the *Green Industry Guidance Catalogue (2019 Edition)*. In a nutshell, the Catalogue (2021 Edition) basically covers the green industries and projects in *the Green Industry Guidance Catalogue (2019 Edition)*.

Policy incentives/ constraints

Nationwide

The PBoC as included green bond investment in the assessment of green financial performance evaluation, and the assessment results will be incorporated into the central bank's rating of financial institutions. It also included green loans and green bonds in the scope of eligible collateral for monetary policy operations. The CBIRC has included green bond investment in the scope of green financing statistics, while the Shanghai Clearing House lowered the fees and rates charged related to green bonds.

Green bond related policy incentives/ constraints set by PBoC

First, to include green bonds in the scope of eligible collateral for monetary policy operations. In June 2018, the central bank decided to appropriately expand the scope of medium-term lending facilities (MLF) collateral to include green financial bonds, AA+ and AA-rated corporate bonds (priority will be given to bonds involving small and micro enterprises and the green economy), as well as high-quality green loans. This move is expected to be enhance the market attractiveness of green bonds, incentivizing more banks to issue green financial bonds, which in turn will lead to more green loans, and providing more financial support to green projects and green enterprises.

Second, to include green bond business in *the Green Financial Evaluation Programme for Banking Financial Institutions*. On 10 June 2021, the PBoC issued a new *Green Financial Evaluation Programme for Banking Financial Institutions (the Programme)*, which came into effect on 1 July 2021 and the evaluation will be conducted on a quarterly basis. The Programme amends the *Green Credit Performance Evaluation Scheme for Depository Financial Institutions in the Banking Sector (Trial)* formulated by the PBoC in July 2018, one of the main amendments being the addition of assessments related to green bond business.

In terms of the application of assessment results, the Programme proposes that "the results of green financial performance evaluation will be incorporated into the PBoC policy and prudential management tools, such as the rating of financial institutions by the central bank".

Qualitative and quantitative indicators related to green bond business	
The quantitative indicators	**Include the assessment of green bond investments.** The overall weight of quantitative indicators is 80%. The four indicators are: 1. The proportion of total green finance business, 2. The proportion of share of total green finance business, 3. The year-on-year growth rate of total green finance business and, 4. The proportion of total green finance business risk. The total green financial business is the weighted sum of various green financial businesses, and is currently the sum of domestic green loans and domestic green bond holdings, both with the same weighting. Products counted in the domestic green bond holdings include green financial bonds, green enterprise bonds, green corporate bonds, green debt financing instruments, green ABS, local government bonds certified as green by assessment and certification agencies, etc.
The qualitative indicators	Include the assessment of "green bond issuance and underwriting" The overall weight of qualitative indicators is 20%

Green bond related policy incentives set by CBIRC

Green bond investment is included in the CBIRC's *"Green Financing Statistical System"*. In early July 2020, the CBIRC released its latest *Green Financing Statistical System*, as an updated version of the original green credit statistical system. In addition to the statistics on green credit, *the Green Financing Statistical System* also includes banks' green bond investments. While counting in the holding of non-financial green bonds invested by banks' own funds (referring to the PBoC *Green Bond Endorsed Project Catalogue*), the system excludes green financial bonds and green credit ABS products. As all green financial bonds issued by banks are invested in green credit and will eventually be reflected in the green credit statistics, and the underlying assets of green credit ABS products are also green credit, these two items are excluded to avoid duplication of statistics.

Green Bond Related Policy Incentives set by Shanghai Clearing House

In January 2020, the Shanghai Clearing House issued the Notice on the *Reduction of Bond Business Charges*, in which the Shanghai Clearing House decided to reduce its bond business charges. To support the sustainable development of the green industry, the issuance and registration fee rate and services fee for interest payment for green bonds were reduced by 50%.

Local level

Local governments in China have continued to launch supporting policies for green bonds, shifting from encouragement to substantial incentive. In addition to six provinces and nine localities actively building national green financial reform pilot zones, nearly 20 other localities across the country have issued local green financial development plans and implementation opinions. Among these policies, many incentive measures have been formulated for green bonds and green credit. Local governments have been incentivizing institutions to issue green bonds, with measures such as discounting interest, guarantees and subsidies for green bonds.

Jiangsu Province's Implementation Opinions on Deepening Green Financial Services for the High-Quality Development of the Ecological Environment (Implementation Opinions) is one example. It discounts interests of ABS and green bonds in environmental infrastructure, and for green bonds such as Yangtze River Ecological Restoration Bonds, the interest discount is 30% of the actual annual payment, with a duration of two years. The subsidy for a single green bond shall not exceed RMB2mn per year. The incentives in the Implementation Opinions are clear, substantial, and broad in scope, and it helped scale up the issuance of green bonds in Jiangsu.

In fact, in addition to the Implementation Opinions released by Jiangsu Province, there are also substantial incentives such as subsidies for green bond issuers implemented by several governments such as governments in the Green Finance Pilot Zones, Sichuan Province and Nanning City, Guangxi Province.

Looking ahead, local governments have already introduced incentive policies and gained experience for other regions to draw on. As substantial incentive policies such as interest subsidies, tax incentives and guarantee mechanisms are implemented in more regions, local governments will increase their support for green enterprise bonds and green corporate bonds, facilitate the development of local green bond market, and ensure the incentives for green bonds will have a broader scope of influence.

Substantial Incentives for Green Bonds from Local Governments (selected)

Administrative area	Financial incentives for companies that issue green bonds	Administrative area	Financial incentives for companies that issue green bonds
Huadu District, Guangzhou Guangdong Province	Subsidy which is 1% of bond issuance amount, with cap of RMB1mn per year, will be given to listed and to-be-listed enterprises that issue green bonds.	**Nanning, Guangxi Province**	Encourage eligible enterprises to declare the issuance of green bonds and other special-purpose bonds. The government will give a subsidy of 1-3% of the raised proceeds, depending on tenor and cost of issuance, the maximum is RMB1mn for each enterprise per year.
Guangzhou	A one-off subsidy of 10% of the issuance costs, with a cap of RMB0.5mn, will be given to financial institutions and enterprises that issue bonds on market platforms such as the exchange market, interbank market, inter-institutional private product quotation and service system and Guangdong Equity Exchange Centre; For bonds verified as green, the subsidy will be increased to 15% of the issuance costs, with a cap of RMB1mn.	**Sichuan Province**	The interest discount for green corporate bonds was 2 percentage points higher than that for general corporate bonds.
Quzhou, Zhejiang Province	Support direct financing. For enterprises issuing green bonds, government will give an additional reward of RMB0.1mn	**Jiangsu Province**	Support the issuance of green bonds such as the Yangtze River Ecological Restoration Bonds, and provide a subsidy of 30% of the actual annual interest payment to non-financial enterprises that successfully issued green bonds. The subsidy lasts for two years with a cap of RMB2mn for a single bond per year. Support the securitisation of the future revenue rights of completed environmental infrastructure such as urban sewage treatment, waste disposal and industrial solid waste disposal, and provide a discount of up to 30% of the coupon rate.
Huzhou, Zhejiang Province	A subsidy of 1% of raised proceeds, up to a maximum of RMB0.5mn, will be given to local private enterprises or local financial institutions that issued labelled green bonds in the interbank market.	**Baise, Guangxi Province**	Encourage eligible enterprises to declare the issuance of green bonds, etc. Implement the incentive policy of the autonomous region, and reward enterprises that successfully raise funds with 1.5% of the actual annual issuance amount, which is up to RMB1mn for a single enterprise
Anji County, Huzhou, Zhejiang Province	A subsidy of 1% of raised proceeds, up to a maximum of RMB0.5mn will be given to local private enterprises or local financial institutions that issued labelled green bonds in the interbank market. A 0.5% bonus will be given to those issuing special bonds for green, “three agriculture” and “small and micro” purposes to support rural revitalisation.	**Zhongguancun National Independent Innovation Demonstration Zone, Beijing**	For enterprises that raise funds through the issuance of green bonds and repay the principal and interest on time, the subsidy is 40% of the coupon rate, with a cap of RMB1mn for a single enterprise, not exceeding three years.
Deqing County, Huzhou, Zhejiang Province	A subsidy of 1% of raised proceeds, up to a maximum of RMB0.5mn, will be given to local private enterprises or local financial institutions that issued labelled green bonds in the interbank market.	**Futian, Shenzhen**	2% interest discount on green bonds.
Gui'an New District, Guizhou Province	Enterprises that successfully obtain green project certification in Gui'an New District, will get a reward, which is a maximum of RMB5,000 for each enterprise, to compensate costs. There are other rewards for conducting green bonds business.	**Shenzhen**	For local enterprises that successfully issue green bonds, a subsidy of 2% of the issuance amount, up to RMB 0.5mn, will be given to an enterprise for a single project. The subsidy is disbursed from the special fund for financial development.

Source: Compiled by CIB Research

5. Outlook

International Market

In August 2021, Climate Bonds lifted its January forecast of USD400-450bn in annual green bond investment to the half trillion mark for 2021, reflecting the strength of the green market in the first six months of the year. Green investment for H1 2021 reached USD227.8bn, a very encouraging result when compared to the full 2020 total of USD297bn. Projections see the long-awaited milestone of USD1tn in annual green investment now in sight for 2023.

Total volumes for the labelled sustainable debt market–including GSS bonds, SLBs, and transition bonds–reached nearly half a trillion (USD496bn) in H1 2021 a 59% increase year-on-year, setting the market on track to reach record highs this year after a 2020 total of nearly USD700bn.

Progress made in COP26, and some positive signals are already there.

Following the launch of its first green gilt (GBP10bn) in September 2021, the UK released its second green gilt of GBP6bn one month later. This comes alongside the launch of the UK's Net Zero Strategy and Heat and Building Strategy, as the Business Department and Treasury look to plan the UK's path to decarbonisation by 2050.

China announced an end to its foreign coal power financing, which was largely in line with the lack of existing such financing in 2021. This is crucial, as about 56% of its domestic energy generation or 1080GW of power still comes from coal. China's announcement coincides with the US publicising proposals to further decarbonise its power sector: a Clean Electricity Performance Programme and clean energy tax credit reform, which is designed to boost adoption of low carbon and clean energy sources.

At COP26, the US and the EU launched a global methane pledge, promising to cut methane levels by 30% against 2020 levels.

ICMA has updated Green and Social Bond Principles. These focus on increasing transparency of bond frameworks and external reviews; issuer level strategies; identifying risks; and links to complementary guidance, such as the Climate Transition Finance Handbook. ICMA also released further guidance on KPI selection for SLBs, metrics for a circular economy and eco-efficient projects, and guidelines for GSS and SLB impact reporting.

The report *Common Ground Taxonomy – Climate Change Mitigation*[19] launched during COP26, in which Climate Bonds participated as an expert advisor, adds clarity to the common ground on the definition of green between China and EU. It will facilitate cross-border flows of green capital and serve as an important reference for the development of taxonomies in other countries and regions.

5.2 China Market

Carbon neutral bonds have broad scope for growth

China's green development has entered a new phase with carbon reduction as the key strategic direction. With the targets of achieving carbon peaking by 2030 and carbon neutrality by 2060 ("30·60" target), the importance of green and low-carbon development and addressing climate change has been more significant in the face of enormous pressure to reduce emissions. President Xi Jinping pointed out again this year, that "In the 14th Five-Year period, **China's ecological civilisation construction has entered a key period to reduce carbon as the key strategic direction, promote pollution reduction and carbon synergies, advance the overall green transition of economic and social development, and achieve the substantial upgrade of ecological and environmental quality."**

Serving the 30·60 target has become one of the priorities for the development of green finance in China. When talking about top financial issues in 2021, Yi Gang, Governor of the PBoC mentioned that serving the strategic deployment of carbon peaking and carbon neutrality is one of the priorities this year and years ahead. The working conference of the PBoC 2021 also listed implementing the major decision on carbon peaking and carbon neutrality as one of its ten key tasks for 2021. **This year's Government Work Report clearly proposes to implement a special policy enabling financial support for green and low-carbon development, and to establish a support tool for carbon emission reduction.** On 8 November 2021, the PBoC officially launched the Carbon Emission Reduction Support Tool, providing low-cost funds to eligible financial institutions, thus enabling financial institutions to provide preferential financing to key projects with carbon emission reduction effects. The instrument is a structural monetary policy tool that directly reaches the real economy, supporting the development of clean energy, energy conservation and environmental protection, and carbon emission reduction technologies in a precise and direct manner, and can mobilise more social capital to promote carbon emission reduction.

In this context, green bonds with proceeds used for projects with emission reduction benefits, such as carbon neutral bonds, may receive more policy support in the future, and are expected to increase in scope. Since the first batch of carbon neutral bonds were issued in February 2021, as of June 2021, the cumulative issuance of carbon neutral bonds has reached 50% of domestic green bond issuance. According to Climate Bonds' *China Green Bond Market Report 2020*, the biggest UoP of domestic green bonds were clean transportation, clean energy, and energy conservation, with a combined share of 61%.

Green local government bond issuance may accelerate

As China's carbon peaking and carbon neutral targets were proposed, relevant ministries and commissions accelerated the enactment of action plans, which will then be passed on to local governments. Most local governments have made achieving a carbon target a key priority; Shanghai and other places have already taken the lead in proposing a timetable for achieving carbon peaking. It is foreseeable that achieving carbon target will become a priority for local governments, and issuing special-purpose local government bonds for green or carbon neutral instruments may become mainstream.

On the one hand, green government special-purpose bonds are fit for green projects, especially large green infrastructure projects with huge investment and a longlife cycle. As of H1 2021, green bonds with tenor of up to 5Y (inclusive) accounted for 88% of the total domestic issuance. Since 2021, the share of short-term green bonds has increased, which does not match the funding needs of large-scale green infrastructure projects with long construction and operation cycles. However, the maturity of special-purpose green government bonds can be 10-30 years, which can fully address the need for long-term funds. On the other hand, the coupon rate for green government bonds could be lower, because governments are usually highly rated. Green government bonds could be subject to preferential policies such as tax exemption, which may help to attract more institutional investors. In the PBoC's latest *Green Financial Evaluation Program for Banking Financial Institutions*, holdings of local government special-purpose bonds verified as green is included in the scope of green investment, and will impact the performance evaluation of banks.

Transition bonds may embrace opportunities for growth

Transition bonds enable responsible investors to support companies or activities that are transitioning to low or zero carbon, particularly in the traditional high carbon emitting sectors. Compared to carbon neutral bonds, transition bonds support a broader scope, and can extend to sectors that will may not have green assets but have a clear decarbonization plan to achieve zero carbon. Transition bond can be more inclusive because the proceeds can support transition activities or general corporate purposes, provided that the whole company is on a transition path.

The PBoC and other ministries are actively studying the criteria relating to transition finance. When the Catalogue (2021 Edition) was introduced, the PBoC said: "In order to better implement the carbon targets, the PBoC is working with relevant ministries to actively study the criteria relating to transition finance, in the principle of safety first and energy saving first, to design a steady transition path and guide financial institutions to support the energy system and energy-consumptive industries to transition in an orderly and gradual manner, with full consideration of the life expectancy and depreciation cycles of existing projects." In the *Q2 2021 Report on the Implementation of China's Monetary Policy*, the PBoC also stated that it would guide commercial banks to give reasonable and necessary support to the transition and upgrading of traditional energy industries, such as coal, in market-oriented principles. Transition finance has become a hot topic internationally, Climate Bonds and ICMA both issuing standards and guidance relating to transition finance.

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