

CHINA GREEN BOND MARKET 2017



**A USD37.1bn
Chinese Green
Bond Market**

Climate Bonds INITIATIVE

 中央国债登记结算有限责任公司
CHINA CENTRAL DEPOSITORY & CLEARING CO., LTD.

 **HSBC**


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China green finance highlights

In the past year, China has cemented its position as a key player in the global green bond market with its regulators continuing to use the tools available to encourage market growth, its issuer base expanding and diversifying and both regulators and issuers implementing measures to align with international best practice.

This is our second China Green Bond Market annual report, in association with CCDC and supported by HSBC this year. This report summarises the major developments that have taken place during 2017 focusing on issuance, policy development and wider market growth.

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2017 highlights:

Addressing environmental challenges has become a high priority for the Chinese government

China's economic growth has been an international success with over a billion people raised out of poverty in just three decades. However, the cost of this growth has become clear with local air pollution, river pollution and greenhouse gas emissions impacting human health, ecosystems and climate change.

The Chinese government is shifting its priorities in response to environmental challenges. President of the People's Republic of China, Xi Jinping, has emphasized the country's commitment to build an 'ecological civilization'¹. In his recent speech at the 19th National Congress, the number of times that 'environment' was mentioned outnumbered that of the 'economy'². To achieve the goal of ecological civilization, President Xi called for promoting green development, which includes developing green finance.

The People's Bank of China (PBoC) estimates that an annual investment of at least RMB2tn-4tn (USD320bn-640bn) will be required to address environmental and climate change issues in China³. Attracting green finance is therefore critical to China's next stage of development.

***Note on figures:** Figures used in this report refer to both onshore and offshore green bonds issued by entities domiciled in mainland China, and green panda bonds unless otherwise stated. Internationally aligned green bonds are those aligned with both local and international definitions of green (see page 4) and they are stated separately.

Green bonds issued by Hong Kong and Taiwan domiciled entities are not included in the figures as the markets are separately regulated. A summary of Hong Kong green bond market can be found on page 6.

China continued its pioneering role in the green bond market in 2017

Following a record-breaking year in 2016, China's green bond market continued to thrive in 2017. Growth has been characterised by a raft of policy developments, growing momentum at the local level and a diversification of issuer types and use of proceeds.

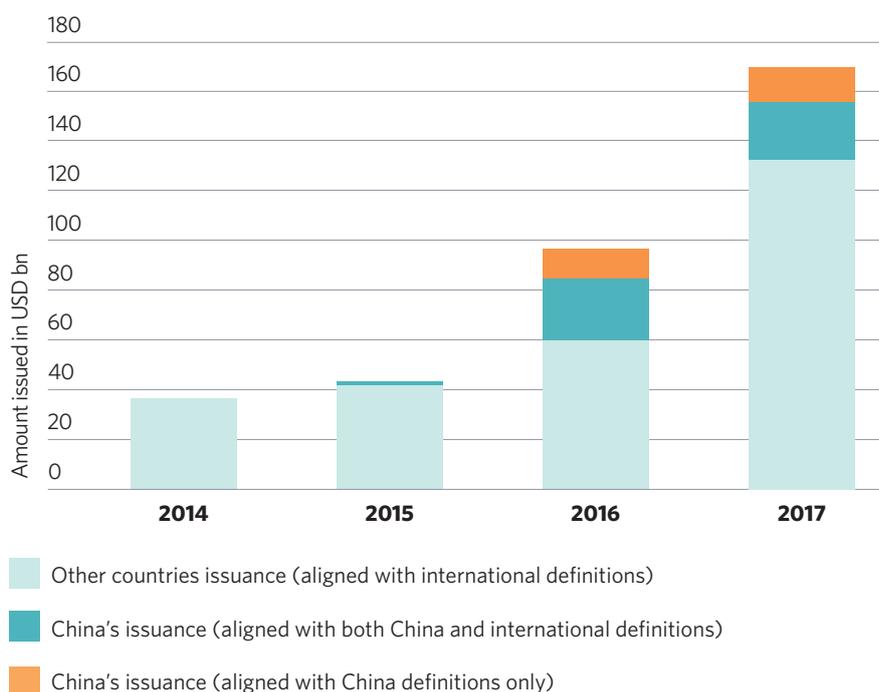
Total green bond issuance⁴ from China reached USD37.1bn* (RMB248.6bn) in 2017 - a 4.5% increase year-on-year. 38% of the total issuance did not meet international green definitions (USD14.2bn/RMB94.3bn) - this was higher than in 2016 when 33% of issuance failed to meet international green definitions (see more on page 4).

Despite tepid growth in issuance in the first quarter of 2017, momentum began to pick up in the second quarter and into year-end, making China the second largest source of green bonds in the world.

"We will create a market-based system for green technology innovation, develop green finance, and spur the development of energy-saving and environmental protection industries as well as clean production and clean energy industries."

Xi Jinping, President of the People's Republic of China

China is a major player within a growing global green bond market



2017 saw new policy developments to promote green bonds as a tool to finance environmental solutions

The rapid growth in China's green bond market over the past 2 years has been primarily due to the implementation of regulation and policy levers to encourage the issuance of green bonds to finance green infrastructure. This includes PBoC's green bond guidelines released at the end of 2015.

In 2017, policy momentum continued with a number of new developments including:

- China Securities Regulatory Commission's (CSRC) green bond guidelines for Chinese listed companies.
- Green Finance and Ecological Protection were written into the 2017 Report on the Work of the Government (see page 10).
- The Fifth National Financial Work Conference encouraged the development of green finance (see page 10).
- New guidelines for verifiers were released by PBoC and CSRC in December 2017 (see page 10).

- The State Council set up pilot zones in 5 provinces including Guangdong, Guizhou, Jiangxi, Zhejiang and Xinjiang to promote green finance⁵.

2017 saw the first mention of green opportunities in the Belt and Road Initiative

In May 2017, President Xi proposed the establishment of an international coalition for the green development along the Belt and Road. This was coupled with the 'Guidance on Promoting Green Belt and Road' jointly issued by four Ministries.⁶

This a potential game changer for green infrastructure across the region especially given that a) initial BRI investments have tended to be conventional projects such as roads and gas or coal plants, and b) the scale of investment proposed (see page 7).

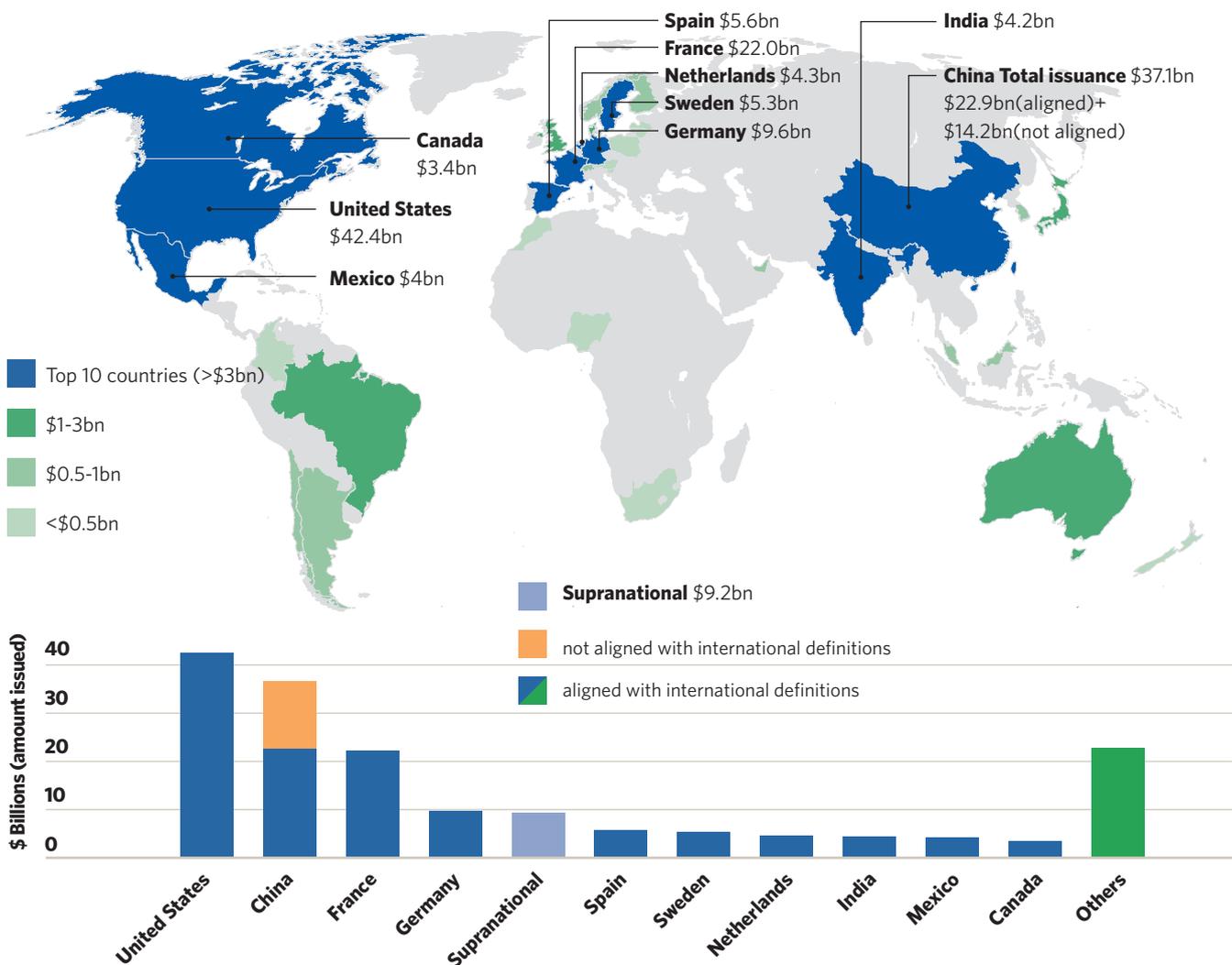
The Belt and Road Initiative (BRI) is a major infrastructure and economic development in countries along the Silk Road Economic Belt and 21st-century Maritime Silk Road to boost global prosperity. Over 69 countries/territories are involved across Asia, Africa and Europe.

"A lot of green finance projects: subways, railways, water treatment, solid waste, new energy, etc., have lengthy investment periods. It might be 10, 15 or even 20 years before investments see a return. This is far beyond the loan periods offered by banks in developing nations.

The best way to resolve this issue is green bonds. I think turning green assets into bonds is an extremely clever solution to the problem of loan length, but it needs development."

Dr. Ma Jun,
Special Advisor to PBoC Governor and Chairman of China's Green Finance Committee

2017 green bond issuance: China is a major player within a growing global green bond market



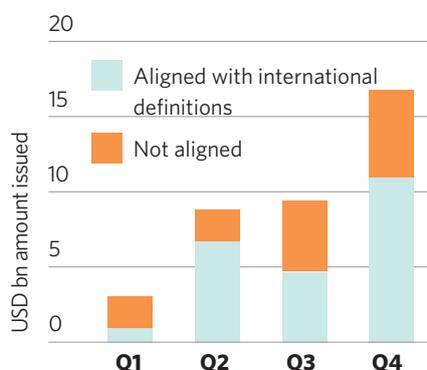
China green bond market developments in 2017

Internationally-aligned green bond issuance from China reached USD22.9bn (RMB154.3bn)⁷ in 2017, comprising 15% of global issuance (22% if including the non-aligned bonds). This figure is slightly lower than the USD23.6bn (RMB165.7bn) reached in 2016. Despite the slight decrease, China remains one of the largest sources of issuance in the global green bond market in 2017. Globally, the United States was the largest issuer in 2017 with USD42.4bn, followed by China and France. Other emerging markets, such as India and Mexico were also among the top 10 issuers.

Green bond issuance picked up from Q2 with the Q4 issuance almost 5 times as large as that of Q1. One reason for the comparatively lower issuance in the first half of 2017 was the rise of market rates at the beginning of the year across all bonds (not unique to the green bond market). Compared with 2016, the yield of 3-year, 5-year and 10-year sovereign bonds went up by 99bp, 89bp and 65bp respectively in the first half of 2017.⁸ The rise of the secondary market yields led to an increase in the interest rate in the primary market, significantly raising financing costs for issuers and impeding bond financing.

One green factor that may also have contributed to the slowdown was that the proceeds raised

2017 China's quarterly green bond issuance



by 2016 green bonds had not been fully allocated and hence new or large issuance was not yet considered by some of the banks.

The green bond market has, however, seen a comparatively high increase in the

context of a difficult year for the domestic vanilla bond market. PBoC statistics show that the net financing scale of corporate bonds dropped 85% from RMB3tn in 2016 to just RMB449.5bn in 2017⁹ and that equity financing surpassed debt financing for the first time in a decade since 2008.¹⁰ This occurred amid a backdrop of an ongoing deleveraging process and prudent monetary policy which led to the tightening of liquidity.

Such market conditions are likely to continue into 2018, as President Xi Jinping has reiterated that China will continue to reduce systemic risks in the financial system.

However, it is expected that green bond issuance will be relatively less affected, in part due to the strong policy support from the Chinese government.¹¹

China's green bonds that are not aligned with international green definitions

Reasons	No. bonds	Amount
Differences in green eligibility definitions	31	USD8.7bn(RMB58.8bn)
>5% of proceeds allocated to working capital	18	USD4bn(RMB25.5bn)
Lack of disclosure	15	USD1.5bn(RMB10bn)

Alignment with international green definitions

A further USD14.2bn (RMB94.3bn) green bonds were not in line with international green definitions due to differences between the eligibility of green projects under China's domestic guidelines vs under international definitions.

Project types that are considered green by domestic but not by international investors include: retrofits of fossil fuel power stations, clean coal and coal efficiency improvements, electricity grid transmission infrastructure that carries fossil fuel energy, large new hydro projects (>50MW) and landfill waste disposal, etc.

Further, international guidelines state that all proceeds should be linked to green assets or projects – we use a 95% threshold given that there are costs relating to the issuance process. However, China's National Development and Reform Commission (NDRC) guidelines allow issuers to use up to 50% of proceeds to

repay bank loans or invest in general working capital. In 2017, USD2.7bn (RMB18bn) of bonds considered as green by NDRC failed to meet the 95% threshold. Lastly, green bonds without a clear disclosure on the intended allocation of proceeds are not considered as green until information is available.

Examples of excluded bonds:

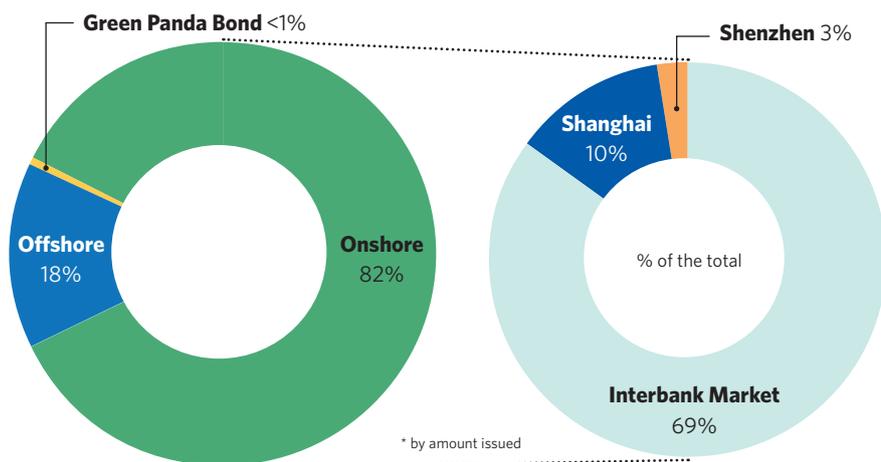
Bonds with proceeds going to general working capital. It includes a bond that finance for electric vehicle charging stations and the development of geothermal power for residential heat supply. While both projects are clearly in line with Climate Bonds Taxonomy and other international green definitions, the bond was excluded as 35% of proceeds to be allocated to the issuer's general working capital.

Bonds with proceeds going to fossil fuel assets commonly include the financing of a type of coal efficiency projects where

a collection of small coal fired stations are replaced with a single large one. Although such projects can utilize coal more efficiently, they are not in line with the steep emissions trajectory required to keep global warming within 2° C.

China is working to harmonise local green bond guidelines with those of international markets. In March 2017, People's Bank of China (PBoC) and the European Investment Bank (EIB) launched a joint initiative to develop a clear framework for analysis and decision-making in green finance. In November 2017, China's Green Finance Committee, which operates under the PBoC, and the EIB launched a White Paper that provides an international comparison of several green bond standards, paving the way for enhancing the consistency of green finance definitions and standards between China and the EU.

Onshore market dominates the green bond issuance



82% of bonds were issued on the onshore market, of which the interbank market accounted for 69%. This is in contrast to the overall bond market in China where over 90% is issued on the interbank market. China's onshore bond market is primarily composed of the interbank bond market and two stock exchange markets, the Shanghai Stock Exchange and the Shenzhen Stock Exchange. It is worth noting that China Development Bank also issued China's first retail green bond over the bank counter. In China, the interbank market is under the governance of PBoC and dominated by commercial banks and other financial institutions while the exchange market primarily consists of listed and non-listed corporate issuers.

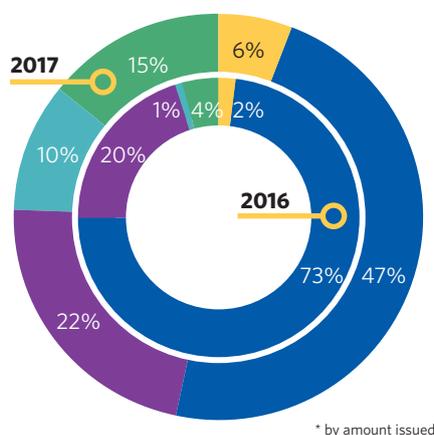
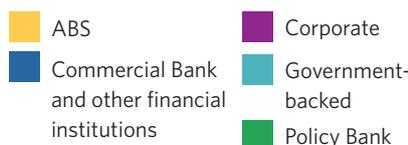
Offshore bond issuance helps issuers attract foreign investors and raise money overseas. Offshore green bond issuance in 2017 reached USD6.6bn (RMB44.1bn), accounting for 18% of the total. Large commercial and policy banks, such as the Bank of China, Industrial and Commercial Bank of China, and China Development Bank fuelled the increase of offshore issuance in 2017. Most offshore green bonds were listed on multiple exchanges with European exchanges being clear favourites for Chinese issuers -such as Luxembourg, Frankfurt, Dublin and Euronext's platform. 69% of offshore issuance was denominated in EUR while 28% was in USD.

Chinese issuer types are becoming more diverse. Even though financial institutions still account for the largest proportion (47%) of 2017 issuance, this is down from 73% in 2016. While the largest commercial banks have become regular issuers, more local and regional commercial banks issued their inaugural green bonds in 2017, such as Bank of Beijing, Bank of Dongguan and Bank of Yantai.

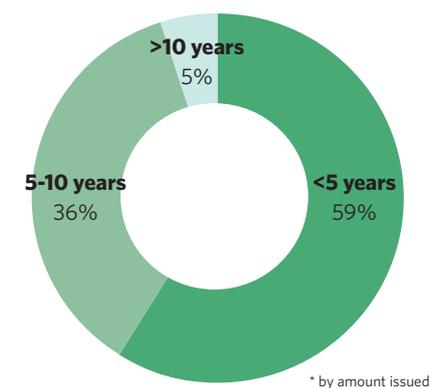
Policy banks, as a special sub-category in China's Banking System, play an important role in financing for state government-directed projects and spending.

Agricultural Development Bank of China provides funds for agricultural development projects in rural areas; the China Development Bank specializes in infrastructure financing, and Export-Import Bank of China (EXIM Bank) specializes in

Commercial banks are still the largest source of green bond issuance



59% of the market is composed of bonds with <5 years tenor



trade financing. Since EXIM Bank's debut green bond came to the market in 2016, all three of China's policy banks have issued green bonds, totalling USD5.4bn (RMB36.1bn) in 2017. This is a significant increase from 4% in 2016 to 14% in 2017. China Development Bank's offshore issuance received certification from Climate Bonds Initiative. Agricultural Development Bank of China and EXIM Bank issued their green bonds under the Bond Connect scheme (see page 8).

The proportion of green ABS issuance in total tripled - increasing from 1.7% in 2016 to 5.9% in 2017. Issuers included Wuhan Metro (metro rail), Guiyang Public Transport Company (new energy buses), TGOOD (Electric vehicles charging stations), etc.

Harvest Capital Management and CECEP Group, also brought the first green CMBS to China's market. The underlying asset is an office building owned by China Energy Conservation and Environmental Protection (CECEP) Group. The building received both the LEED Gold certificate and China Green Building Label (GBL) two-star certificate.

Green bonds from government-backed issuers have the longest average tenor of 10.8 years.

Green bonds have the potential to be a valuable tool to increase the flow of long-term financing required for green infrastructure. The average term of bank loans in China is only two years - far shy what is required to finance longer term green infrastructure projects. Ma Jun, Special Advisor to PBoC Governor and Chairman of China's Green Finance Committee, says green bonds would be the best solution for tackling the problem of maturity mismatch.¹²

At the moment, the average green bond tenor is still shorter than the international market with 59% of bonds having tenors shorter than 5 years compared to the international green bond market where the majority of bonds has a tenor between 5 and 10 years.

Some issuer types are able to attract longer tenors. These include government-backed entities such as local government funding vehicles (LGFV) and metro companies where investment horizons are longer.

Average green bond tenor

Type of issuer	Average tenor
Commercial Bank and other financial institutions	4.6 years
Corporate	6.3 years
Government-backed	10.8 years
Policy Bank	5.1 years

Investment grade green bonds dominate the universe with most bonds rated by local rating agencies. 17% of bonds have no rating, but of this 14% was issued by China Development Bank or Agricultural Development Bank of China. Although some of their bonds didn't carry any ratings, they are normally considered equivalent to the China sovereign rating (S&P A+ or Moody's A1). Other green bonds were all rated as A- or above with 51% of bonds having a domestic rating of AAA. From an international perspective, issuers do not generally receive a higher rating than that of the sovereign, meaning that bonds with a domestic AAA rating would be considered to be A+/A1 (China's sovereign rating). Almost all onshore issuance carries ratings from local agencies, this is partly due to the fact that China's credit rating market is not opened to foreign agencies yet. Almost all offshore issuance uses international rating agencies.

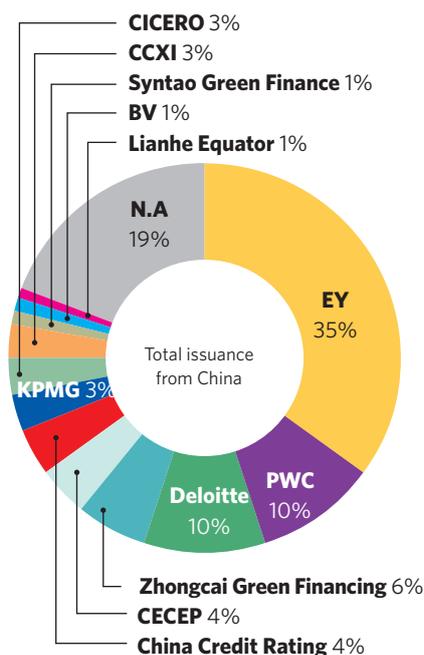
In July 2017, China promised to allow US credit-rating agencies to enter its domestic market to help draw foreign investment into the country's onshore bond market. However, before US rating agencies can begin operating in China, they will need to wait for specific rules on how to apply for a ratings license. It is expected that more local green bond issuers may want to seek for international ratings to attract foreign investors.¹³

The Big-4 accounting firms dominate the external review of green bonds with 58% of the total value of green bonds received an external review from either EY, Deloitte, KPMG, or PWC. 24% is made up of reviews from China's domestic reviewers which include a variety of agencies, ranging from specialised green bond reviewers to conventional rating agencies and business consultancies. Zhongcai Green Financing was the largest domestic green bond reviewer (by value) in 2017. 19% of green bonds don't have any external review - these are primarily composed of private placements, ABS issuance and some bonds approved by NDRC as its green bond guidelines don't require an external review.

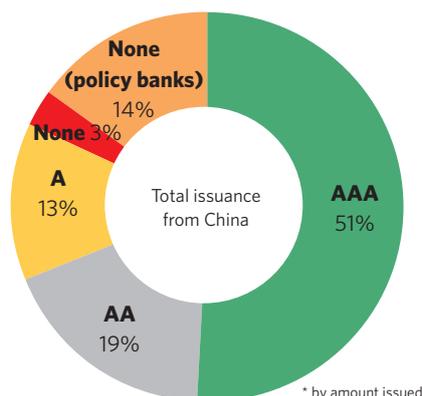
Clean energy accounts for the largest allocation of green bond proceeds standing at USD6.8bn (30%) with wind and solar the dominant themes against Climate Bonds Taxonomy. Commercial banks are the largest source of clean energy financing followed by an increasing number of corporate issuers such as GCL Solar and Century Concord Wind Power. China Three Gorges also came to market with two green bonds exclusively financing for wind farms.

Low carbon transport is the second largest theme by Climate Bonds Taxonomy, accounting for 22% of proceeds raised. However,

The Big-4 account for more than half of external reviews



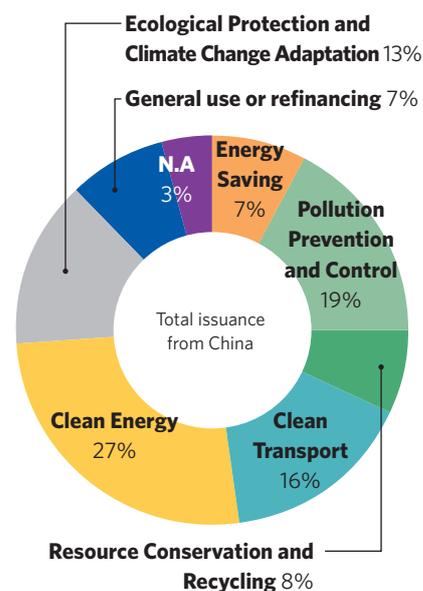
AAA rated bonds dominate the green bond issuance from China



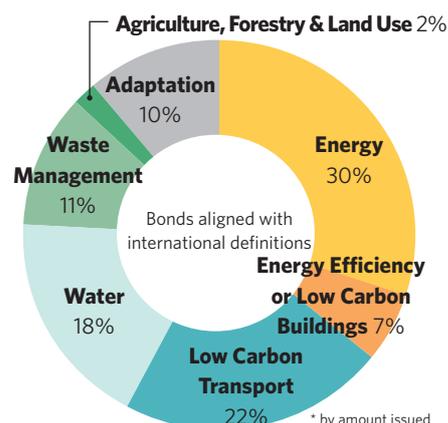
by PBoC's Green Bond Endorsed Project Catalogue, Pollution Prevention and Control is the second largest theme. China has made strong statements on reducing air pollution and has contributed to the development of clean energy and pollution prevention projects.¹⁴ However, 1/3 of these two themes were not aligned with international definitions, consisting mainly of projects relating to clean coal such as 'coal gasification' and 'replacing the smalls coal fired power stations with the large ones'. While clean coal technology is recognised in the Chinese context to reduce pollutants and improve local air quality, international investors expect to see a more rapid transition towards 2 degrees target and many of them have divested from coal over climate change.

Hong Kong domiciled entities have brought another USD1.36bn green bond to the market, these include repeat issuers such as the city's subway operator MTR, as well as Towngas, who has finance for non-fossil fuel based projects through its green bond issuance.

Use of proceeds, by PBoC's Green Bond Endorsed Project Catalogue



Use of proceeds, by Climate Bonds Taxonomy



In the Hong Kong Chief Executive's 2017 Policy Address, it was noted that the Hong Kong SAR government will take the lead in arranging the issuance of a green bond in the next financial year and promote the establishment of green bond certification schemes that meet international standards by local entities. We expect to see more issuance from Hong Kong in 2018.

Green Bond Prices Varied

After excluding green asset-backed securities, private placement, new tap and offshore issuance, there were 90 green bonds in 2017 selected and compared with the yield to maturity of plain vanilla bonds having the same ratings, tenor and type. Among these, 55 green bonds were priced higher than that of the plain vanilla bonds; whereas the other 35 green bonds were issued at lower cost than that of plain vanilla bonds.

Certified Climate Bond issuance is on the rise. Confidence in the green credentials of green bonds is essential to a sustainable market.

The Climate Bonds Standard (CBS) provides clear, sector-specific eligibility criteria for assets and projects to define project eligibility for green bonds and to help investors make informed decisions about the climate and environmental credentials of a bond.

The Certification scheme allows Chinese issuers to demonstrate to overseas investors that their bond meets international industry standards for climate and environmental integrity. It also makes it easier for international investors to identify and invest in quality green bonds, reducing the need for due diligence.

In June 2017, China Three Gorges became the first Chinese issuer to gain Climate Bonds Certification for a bond financing wind power projects. Green

bonds from Industrial and Commercial Bank of China, China Development Bank and Bank of China also received Certifications in 2017. Certified Climate Bonds made up almost 16% of total green bond issuance from China (or 26% of international aligned green bonds from China) in 2017.

Certification is increasingly being adopted in major green bond markets. Globally, USD22.3bn green bonds was certified in 2017, accounting for 14% of the market.

Green opportunities along the Belt and Road

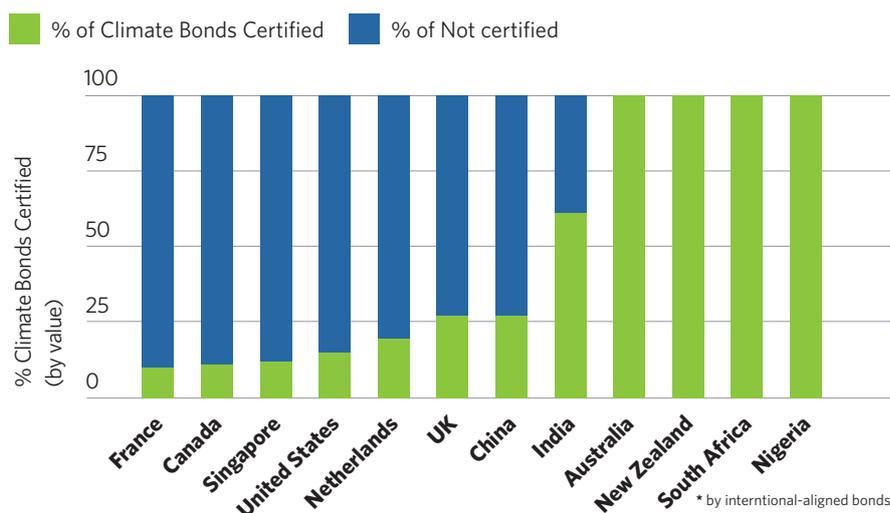
In May 2017, President Xi proposed the establishment of an international coalition for green development on Belt and Road. This was coupled with the 'Guidance on Promoting Green Belt and Road' jointly issued by four Ministries.¹⁵

The Guidance stresses the need for BRI investment in low carbon and climate resilient infrastructure projects as an effort to develop the global green economy, to reduce environmental risks that infrastructure projects are exposed to and to protect the ecosystem.

The greening of BRI is essential because both of its reach and scale: over RMB800bn (USD126bn) has been committed to BRI projects in the coming years by Chinese government and financial institutions.

Given that BRI investments in the initial years focus on infrastructures, the development could provide huge opportunities for the green bond market. This is because the mobilisation of finance for green BRI projects will be the next critical step, while green bonds are the tool to enable this to happen.

Percentage of market with Climate Bonds Certification in 2017



Case study: ICBC's One Belt One Road Climate Bond

ICBC issued its first certified Climate Bond for USD2.15bn, issued in three tranches of EUR1.1bn, USD450m and USD400m with 3 and 5-year tenors. The ICBC statement notes that the 'One Belt One Road Green Climate Bond' marks the biggest single tranche in EUR-denominated green bonds by a Chinese issuer.

European investors took over 70% in two 3-year tranches in EUR and USD, with a diversity of investors including ESG

investors, sovereign funds, insurance companies and corporates.

Bond proceeds will be used for eligible projects, including renewable energy, low carbon transportation, energy efficiency, and sustainable water, etc. This is the first climate bond from China that received both an external review and the Climate Bonds Certification against domestic and international definitions respectively.

Chinese green bonds certified by Climate Bonds Initiative

Issuer	Amount	Currency	Issue Date	Maturity Date	Verifier	Market
China Three Gorges	650m	EUR	21/06/2017	21/06/2024	EY	Dublin
Industrial and Commercial Bank of China	450m	USD	12/10/2017	12/10/2020	CICERO/ Zhongcai Green Financing	Luxembourg Stock Exchange (Luxembourg Green Exchange)
	400m	USD	12/10/2017	12/10/2022		
	1.1bn	EUR	12/10/2017	12/10/2020		
China Development Bank	1bn	EUR	16/11/2017	16/11/2021	EY (all)	China Europe International Exchange, Hong Kong
	500m	USD	16/11/2017	16/11/2022		
Bank of China	500m	USD	22/11/2017	22/11/2022	EY (all)	Euronext-Paris
	1bn	CNY	22/11/2017	22/11/2020		
	700m	EUR	22/11/2017	22/11/2020		

2017 firsts and emerging trends

China firsts in 2017:

1. First certified Climate Bond

The first Chinese green bond certified by Climate Bonds Initiative was issued in June 2017 by China Three Gorges Group. It was the Group's first offshore green bond amounting to EUR650m. Funds will be allocated to two wind power projects in Germany and Portugal with a combined installed capacity of 710MW. It attracted investors from several countries around the world and was 3.1 times oversubscribed.

China Three Gorges Corp. is the largest hydropower enterprise in the world in terms of installed capacity. In spite of controversies over hydro projects, the company is also 'making efforts to take the lead in wind power, solar power, and other forms of clean energy'. While bonds linked to its hydropower plants are not able to be certified at present, it can finance the development of other renewable energy assets using the Climate Bonds Certification tool to issue bonds overseas.

2. First green retail bond

The first retail green bond was issued in September 2017 by China Development Bank on the interbank bond market. It finances for 'Water Resources protection along the Yangtze river economic zone'. Industrial and Commercial Bank of China, Agricultural Bank of China and Bank of China, as the retail bond distributors, sold this green bond to both individual investors and non-financial institutional investors over the counter.

3. First green bond issued through Bond Connect

Agricultural Development Bank of China issued RMB3bn (USD450m) green bond through the Bond Connect Scheme for the first time. It was 4.38 times oversubscribed. The Bond Connect scheme provides a convenient channel for foreign investors to invest in China's onshore market by removing some investment hurdles. For instance, under the Bond Connect, there is no quota or the need to stipulate an intended investment amount, trading is therefore more efficient. Overseas investors can also trade directly with eligible onshore dealers through electronic request-for-quote and native interfaces of established electronic bond trading platforms.

Emerging Trends:

1. Bonds issued by Local Government Financing Vehicles are on the rise

Green bonds issued by Local Government Financing Vehicles (LGFV) were a new feature of 2017 reaching USD 3.7bn (RMB24.8bn), making up 10% of 2017 total green bond issuance from China (less than 1% in 2016). Among the 15 LGFV green bond issuers, Wuhan Metro is the largest with a total amount of USD746m(RMB5bn), followed by Guangzhou Development Group(USD367mn/RMB2.4bn).

The largest climate theme financed by LGFV green bonds was low carbon transportation, this includes Wuhan Metro's issuance (in multiple taps) for the city's mega metro projects and Xi'an Fengxi New City's green bond raising funds for the electric vehicle charger stations. The second largest theme was adaptation which primarily relates to water infrastructure - for example, Yiwu State Owned Asset Co. issued a green bond for flood control projects in the city.

What is a local government financing vehicle?

An LGFV is an entity usually set up by local government authorities or municipalities and serves as a special purpose entity to finance infrastructure projects. LGFV debt issuance in China has been further accelerated since 2014 when the new Budget Law of People's Republic of China was released. The Law allows local government to borrow without the approval of central government. Although almost all LGFVs are registered as corporates in China, they normally do not seek to make profit but provide 'off budget' solutions for the local government authorities or municipalities.

'Enterprise bonds' are the most common type of instrument used by LGFVs, as most LGFVs are solely controlled by the government. An 'enterprise bond' is a term unique to the Chinese context that specifically refers to bonds issued by central government agencies, state-owned enterprises or state-controlled entities. The creditworthiness of the financing vehicles, being backed by government authorities in this kind of structure, is usually enhanced and therefore the cost of borrowing is lower compared to regular corporate borrowers.

NDRC, as the regulator of enterprise bonds, oversees most green bond issuance from LGFVs. As NDRC allows up to 50% of bond proceeds to be directed to repaying bank

loans or investing in general working capital, almost 90% of green bonds issued by LGFVs are not aligned with international definitions.

We expect to see increased issuance from LGFVs in the coming year, particularly given the State Council's announcement of the green finance pilot zones, although inclusion in Climate Bonds data will remain a challenge due to NDRC guidelines.

Bond Connect Scheme

Bond Connect is a new market access scheme that allows investors from mainland China and overseas to trade in each other's bond markets through a connection between the related Mainland and Hong Kong financial infrastructure institutions. Northbound trading allows overseas investors to invest in the China interbank bond market through mutual access arrangements in respect of trading, custody and settlement, this commenced on 3rd July 2017. Southbound trading will allow China's domestic investors to have easier access to foreign bond markets - this will be explored at a later stage.

In 2017, both the Agricultural Development Bank of China and Export-Import Bank of China launched green bonds through Bond Connect scheme. We expect more Chinese issuers to follow suit.

Some foreign investors currently have access to the onshore bond market under China Inter-Bank Bond Market (CIBM), QFII and RQFII schemes. However, Bond Connect could be a breakthrough as it overcomes a few hurdles of these schemes such as that: a) there is no quota or need to specify an intended investment amount; b) investors can trade bonds directly with eligible onshore dealers without having to engage an onshore bond settlement agent bank; c) CNH (offshore RMB) and other foreign currencies are accepted for payment under Bond Connect.¹⁶

In short, Bond Connect provides foreign investors with a much more convenient channel to participate in the domestic bond market and leverages on Hong Kong's experience in RMB business and serves to test the further liberalisation of China's capital markets and the internationalization of RMB.

2.A broad range of green bond indices are appearing

A green bond index tracks the financial performance of the constituents and helps investors to identify fixed income investments supporting a low carbon transition. As China's green bond market has grown, a number of green bond and climate aligned bond indices have been established, focusing on both labelled and unlabelled green bonds on China's domestic market.

These indices make it easier for investors to track green bond performance, and compare returns and volatility with other investments.

Existing indices have been launched by a variety of institutions, including the bond market custodian, stock exchanges and international organisations.

After the release of ChinaBond China Green Bond and Select Green Bond Indices, and the ChinaBond China Climate-aligned Bond Index in 2016, three new green bond indices were launched in 2017, these include:

a) ChinaBond CIB Green Bond Index launched jointly by CCDC and China Industrial Bank.

Eligible projects have to meet either the Green Bond Endorsed Project Catalogue, NDRC Guidelines, Green Bond Principles, Climate Bonds Standards, and need to be confirmed by the China Industrial Bank according to its Green Finance Criteria (2016).

In June 2017, China Industrial Bank released an index-linked wealth management product tracking the this index, which is the first of this kind in China.

b) CUF-CNI Green Bond Index Series were developed by the International Institute of Green Finance at Central University of Finance and Economics, and Shenzhen Securities Information Co., Ltd (SSI) which is a subsidiary of Shenzhen Stock Exchange.

Jointly launched by the Luxembourg Stock Exchange and Shenzhen Stock Exchange, the indices synchronously display quotes in China

and Europe and aim to facilitate access to green bond investment for European investors.

c) SSE Green Corporate Bond Index aims to provide greater transparency and facilitate access to Chinese green securities for investors in Europe¹⁷.

As part of a cross-border cooperation between Shanghai Stock Exchange (SSE) and LuxSE, the indices will be displayed on both exchanges' websites¹⁸.

With the development of green bond indices, it is expected that China's market will launch green bond ETFs or more index-linked structured products in the coming years, which will further promote investment and liquidity.

Want to know more about how green bond indices have performed?

Please see page 12

China green bond and climate-aligned bond indices

Name of Index	Index Providers	Labelled/ Unlabelled	Eligibility criteria	Type of bonds	Displaying
ChinaBond China Green Bond Index / Select Green Bond Index	CCDC	Labelled and unlabelled	Green Bond Endorsed Project Catalogue, NDRC Guidelines, GBP, CBS	Green financial bond, policy bank bond, corporate bond, enterprise bond, medium-term note(MTN), etc.	ChinaBond Integrated Operation Channel
ChinaBond China Climate-aligned Bond Index	CCDC, CBI and CECEP	Labelled green bond, Unlabelled climate-aligned bond	Green Bond Endorsed Project Catalogue and CBS	Green financial bond, policy bank bond, corporate bond, enterprise bond, medium-term note, etc.	ChinaBond Integrated Operation Channel
ChinaBond CIB Green Bond Index	CCDC	Labelled and unlabelled	Either Green Bond Endorsed Project Catalogue, NDRC Guidelines, GBP, CBS, and need to be confirmed by CIB's Green Finance Criteria (2016)	Green financial bond, policy bank bond, corporate bond, enterprise bond, medium-term note, etc.	ChinaBond Integrated Operation Channel
CUFE-CNI Green Bond Index Series	SSI, IIGF	Labelled and unlabelled	Green Bond Endorsed Project Catalogue	Bonds issued by government, policy banks and government backed agencies; bonds issued by AAA-rated financial and nonfinancial companies are also eligible, including bonds issued by listed companies, enterprise bonds, MTN, commercial paper, etc.	LuxSE, Shenzhen Stock Exchange
SSE Green Corporate Bond Index	SSE	Labelled	CSRC green bond guidelines, and the SSE's green bond pilot programme	Corporate bonds listed on SSE, excluding private placement bond	LuxSE, Shanghai Stock Exchange

2017 green bond policy roundup

2017 has seen Chinese green bond market expansion bolstered by a string of policies at both central and local government levels:



Green finance is taking centre stage in policy discussions

1. The 19th National Congress emphasizes the promotion of green development.

The National Congress is held every 5 years and is important because it outlines the vision of the Party Leader and defines the ambitions of the Communist Party for the next 5 years. President Xi Jinping's report at the 19th Chinese Communist Party National Congress in October 2017 made it clear that China will implement strict systems for environmental protection, develop Eco-friendly growth models, and work together to combat climate change. He also asserted that China will step up efforts to establish a legal and policy framework that promotes green production and consumption, and promotes an economic structure that facilitates green and low-carbon development. There are also plans for China to create a market-based system for green technology innovation, develop green finance, and spur the development of energy-saving and environmental protection industries as well as clean production and clean energy industries.

2. The Fifth National Financial Work Conference encourages the development of green finance.

Held every five years since 1997, the National Financial Work Conference sets the scene for macro financial policies and financial system reforms in China. Chinese President Xi Jinping attended the 2017 conference and delivered the keynote speech. He stressed that the financial sector is the facilitator of the real economy and that China needs to build an inclusive financial system, and encourage the development of green finance.

3. The Government Work Report includes green finance

In March 2017, Chinese Prime Minister Li Keqiang presented the 2017 Government Work Report at 12th National People's Congress where he stressed that the Xi administration will continue to make major efforts to develop green finance. This report is released every year and highlights the government's administrative priorities for the following year - this is the second time that 'green finance'

has been being written into the government work report, indicating a growing emphasis on greening the financial system.

4. The State Council set up pilot zones in five provinces to promote green finance

In June 2017, the State Council approved the overall plan for the development of green finance and innovation pilot zones in five provinces, namely Guangdong, Guizhou, Jiangxi, Zhejiang and Xinjiang. These pilot zones will each focus on different aspects of green financing, including growing green bond issuance. Various pilot zones have announced experimental programs or to-do lists on developing green loans, green bonds and green insurance, and have committed to accelerating the construction of a diverse green financial system.



Guidelines are regulating an increasing proportion of the market

1. PBoC and CSRC guidelines for verifiers

In late December, PBoC and CSRC jointly released 'Green Bond Assessment and Verification Guidelines' for green bond verifiers and verification activities in China.¹⁹ The new guidelines will be under the supervision of a new 'Green Bonds Standard Committee', currently in the process of being set-up. It is the first time that a government introduces supervisory scheme stipulating the regulatory requirements for verifiers, including the required qualifications and credentials, verification methods, and reporting requirements. Verifiers should follow either domestic or international standards recognized by the Green Bonds Standard Committee, and they will now have to undertake both pre-issuance verification and post-issuance tracking.

2. National Association of Financial Market Institutional Investors (NAFMII) guidelines

The NAFMI guidelines, released in March 2017, cover non-financial enterprises and are additional to the current suite of Chinese guidelines as such entities were not previously covered by other guidelines.

According to the guidelines, NAFMII will open a 'green channel' for the registration of green debt financing instruments and strengthen the registration service for green debt financing instruments. The guidelines require that green debt financing instruments should have a reasonable assessment and selection mechanism for green projects, set up a special account for green bond proceeds for regulatory

purposes, and raise funds specifically for green projects. In addition, the guidelines come with an information disclosure form, which sets out requirements for disclosure on all risks, use of proceeds, management of proceeds and information disclosure arrangements. They also require issuers to disclose the basic information about third party verifiers, their evaluation criteria, methodology, evaluation process and selection.

3. China Securities Regulatory Commission (CSRC) guidelines for listed companies

The CSRC guidelines, released in March 2017, have adopted the green definitions used by PBoC, with a restrictive proviso excluding high polluting and high energy consumption companies that conflict with the national industrial planning policy. There are no details around what the implications of this will be but it's possible that companies in high polluting industries like coal will not be approved to issue green bonds. The guidelines also encourage financial institutions including brokerages, fund management companies and banks to invest in green bonds, and prompted Shanghai and Shenzhen stock exchanges to develop dedicated green bond lists, indices and other instruments to facilitate investment.



Harmonisation of green bond standards

One barrier to the growth of the green finance market and cross-border

capital flows is the lack of comparability and consistency between green bond standards in different markets. This has prompted global efforts towards harmonisation of green definitions and standards.

Domestically, PBoC and NDRC have published green bond guidelines with a list of qualifying green projects and proposals for policy incentives. While the two sets of Chinese guidelines are complementary, slight differences can create confusion in the market. PBoC and NDRC have reached consensus to work towards a common Green Bond Catalogue on the basis of the national Green Industry Catalogue²⁰ - there is currently no published time frame on this.

Internationally, PBoC's Green Finance Committee and the EIB launched a white paper entitled 'The need for a common language in Green Finance' with an international comparison of green bond standards. The paper paves the way for better consistency of green definitions and standards between China and the EU.²¹

Things to watch for in China in 2018

2017 was a year of strong growth in global green finance but there is a long way to go. Climate Bonds Initiative and the United Nations Framework Convention on Climate Change (UNFCCC)²² have both stated that to make a meaningful contribution to climate finance, green bond issuance should reach USD1tn per year by 2020.²³

As one of the world's largest builders of green infrastructure and one of the largest green bond markets, China will account for a big slice of the USD1tn pie. This will require the green bond issuance in China to grow tenfold in just three years. The following catalysts may make this happen.



1. A greener Belt and Road Initiative

In May 2017, China held the first-ever Belt and

Road Summit in Beijing at which China demonstrated its ambition to green the Belt and Road Initiative to include renewable energy and other green infrastructure.²⁴ While initial BRI plans were for more traditional infrastructure (fossil fuels, roads etc.), the statements about greening the BRI is a positive step.

The overarching challenge ahead is to fill the huge infrastructure funding gap. According to Asian Development Bank (ADB), USD22.6tn is required in Asia and the Pacific alone to meet all infrastructure needs through to 2030.²⁵ China and the international finance community will be key to mobilising private investment in countries along the Belt and Road and green bonds will be a crucial tool.

We have already seen major banks including China Development Bank, ICBC and Bank of China issuing green bonds to support green infrastructure in countries along the Belt and Road. A lot more Belt and Road green bonds are expected to come in 2018 and beyond.



2. Increasing green sovereign and sub-sovereign issuance

2017 saw increased issuance of sovereign green bonds globally, with France, Fiji and Nigeria being the pioneers. In November 2017, China Development Bank, the state-owned policy lender, debuted its Certified Climate Bond on the offshore market - China's first ever quasi-sovereign international Climate Bond.

Green sovereign bonds are increasingly seen as a key tool for governments to raise capital

to implement infrastructure plans in line with Nationally Determined Contributions (NDCs). Besides raising capital, a sovereign green bond can attract new investors, improve collaboration between finance ministries and provide policy certainty within the country. This is a possibility in China although in the short term, an increase in sub-sovereign bond issuance is more likely.

China's green bond market saw plenty of new entrants from the local government level in 2017. This is likely to increase in 2018 as the five green finance pilot zones implement their plans approved by the State Council, and other local government entities will also use approved quota to issue green bonds to fund their green projects (page 13).



3. Inter-country capital flows will support green bond market growth

Despite China being the world's third largest bond market behind USA and Japan, only 4% of the bonds are foreign-owned in China. This compares to 10% in Japan and 43% in the US.²⁶ Cross-border capital flows to China's green bond market are important to its growth but are currently hamstrung by a number of both green and non-green factors.

Green factors include differences between China and international green definitions and a lack of information on China's green bond market. Non-green factors include regulatory controls in place for domestic market access, capital flow controls, inadequate hedging tools and unfamiliarity on the part of international investors with domestic credit ratings.²⁷

Already, there is momentum underway to reduce barriers to international access to Chinese markets and, as this continues (see box) there will be a larger market for Chinese green bonds.

4. Green Bond Connect

Currently, all green bonds on onshore secondary bond markets are tradable under the Bond Connect Scheme. For new issuance, Agricultural Development Bank of China and Export-Import Bank of China took the lead by launching primary green bond offerings through Bond Connect scheme in 2017. We expect there will be a growing number of Chinese green bond issuers to follow suit as they look to diversify their investor base.

Bridging the difference between the China and international green definitions, as well

as increasing the visibility of green bonds by providing dedicated green bond segment on stock exchange remain crucial in boosting foreign investor confidence, and in increasing green bond trading volume and capital flows.

5. Hong Kong green bonds

Hong Kong is also stepping up efforts to catch up with the green finance developments in the region. This is evident by the leading role that the Hong Kong government has played in support of green bond market and green bond certification scheme against clear and transparent criteria. Continuing discussions on green bonds at government, regulatory and market levels will help to establish Hong Kong as an international green finance centre and strengthening the city's role as a super connector between mainland China and the rest of the world.

Actions to facilitate inter-country capital flows

To pave the way for introducing overseas capital to China's green bond market, the following actions are recommended:

For regulators:

- Simplify the green bond approval process
- Provide clear policy guidance on market entry channels
- Improve requirements for domestic credit ratings
- Provide clear policy signals and guidance on international capital controls

For financial institutions and government entities

- Raise awareness through demonstration issuance
- Develop RMB hedging instruments

For institutes and other service providers

- Improve international investor understanding of local market through investor roadshows or engagement platforms
- Develop essential market infrastructure such as databases and indices
- Support the establishment of internationally-accepted green bond standards and certification schemes.

2017 detailed charts and data: index performance

ChinaBond China Climate-aligned Bond Index

As of 31 December 2017, there were 268 constituent bonds included in the ChinaBond China Climate-aligned Bond Index with a total outstanding amount of RMB 1.3tn. The average duration is 4.5 years and the 1-year total return of the index was -0.59%. 99.99% of the proceeds of index constituents were allocated to green projects.

Total return: Chinabond China Climate-aligned Bond Index



ChinaBond China Green Bond Index

As of 31 December 2017, there were 755 constituent bonds included in the ChinaBond China Green Bond Index with a total outstanding amount of RMB 2.45tn. The average duration is 3.95 years and the 1-year total return of the index was 0.11%. 93.65% of the proceeds of index constituents were allocated to green projects.

Total return: ChinaBond China Green Bond Index



ChinaBond China Green Bond Select Index

As of 31 December 2017, there were 623 constituent bonds included in the ChinaBond China Green Bond Select Index with a total outstanding amount of RMB 2.25tn. The average duration is 4.08 years and the 1-year total return of the index was -0.05%. 94.65% of the proceeds of index constituents were allocated to green projects.

Total return: Chinabond China Green Bond Select Index



ChinaBond CIB Green Bond Index

The index was launched jointly by CCDC and China Industrial Bank. Eligible projects have to be confirmed by China Industrial Bank's Green Finance Criteria (2016).

As of 31 December 2017, there were 95 constituent bonds with a total outstanding amount of RMB267.5bn. The average duration is 2.35 years and the 1-year total return of the index was 1.43%. 96.11% of the proceeds of index constituents were allocated to green projects.

Total return: ChinaBond CIB Green Bond Index



Data source: all index performance data is provided by CCDC

2017 detailed charts and data: approved bonds

Approved green bonds in 2017 with remaining quota*

Issuer/potential issuer	Amount approved	Amount remaining**	Approval Date	Regulatory Authority
GCL-POLY Holdings	1.75bn	815m	N.A	SZSE
Shaanxi Xixian Xinqu Fengxi Development and Construction (Group)	1.67bn	170m	07/01/17	NDRC
Yunnan Water Investment Co. Ltd.	1.8bn	600m	17/01/17	SSE
Wuhan Metro	5bn	2bn	25/01/17	NDRC
Tibet Urban Development and Investment	1.82bn	820m	07/03/17	NDRC
China Power New Energy Development Co. Ltd.	2.5bn	1.7bn	04/17	N.A
Zhongli Group	700m	600m	20/04/17	CSRC
Anhui Tongling Development Investment Group	1.2bn	400m	25/04/17	NDRC
Heilongjiang Quanlin Ecological Agriculture Company	3bn	3bn	11/05/17	NDRC
China Longyuan Power Group	6bn	3bn	15/05/17	NDRC
Changchun City Construction Investment Co. Ltd.	3bn	3bn	16/05/17	NAFMII
Guangzhou Development Group	4.8bn	2.4bn	22/05/17	NDRC
Oriental Energy Co. Ltd.	1.2bn	600m	24/05/17	NAFMII
Huishang Bank	5bn	4bn	06/17	CBRC, PBoC
Bank of Zhengzhou	5bn	2bn	06/06/17	CBRC, PBoC
Qingdao Rural Commercial Bank	4bn	3bn	09/06/17	CBRC, PBoC
Qidi Holdings	1.5bn	1.15bn	07/17	SSE
Risen Energy Co., Ltd.	650m	650m	06/07/17	CSRC
Shanxi International Energy Group	2bn	1.52bn	07/07/17	CSRC
Bank of Lanzhou	3bn	2bn	11/07/17	CBRC, PBoC
Tian Jin SDIC Jinneng Electric Power Co. Ltd.	1bn	200m	20/07/17	NAFMII
Guangdong Nanhai Rural Commercial Bank	1.5bn	1.2bn	20/07/17	CBRC, PBoC
Zhongmin International Finance Leasing Co. Ltd.	1bn	1bn	09/17	SSE
Bank of Dongguan	4bn	2bn	03/08/17	CBRC, PBoC
Tianjin Union Electronic Technology Co. Ltd.	800m	800m	24/08/17	NAFMII
China Guangdong Nuclear Power Holding Co. Ltd.	2bn	1bn	24/08/17	NAFMII
Shandong Lipeng Co. Ltd.	600m	350m	09/17	SZSE
China Jushi Co. Ltd.	700m	700m	19/09/17	NAFMII
Yantai Bank	4.58bn	3.58bn	25/09/17	CBRC, PBoC
Anji County Urban Construction Investment Group Co. Ltd.	1bn	1bn	30/09/17	NDRC
Huarong Xiangjiang Bank	3.5bn	2.5bn	01/10/17	CBRC, PBoC
Lingbao State-owned Assets Operation Limited Liability Company	1.3bn	1.3bn	18/10/17	NDRC
Shandong Caoxian Shangdu Investment Co. Ltd.	800m	800m	30/10/17	NDRC
Hebei Iron and Steel Co. Ltd.	700m	700m	10/11/17	NDRC
Guoxuan High-Tech Co. Ltd.	1bn	1bn	15/11/17	NDRC

* All figures in RMB, only bonds with public disclosure of information are included.

**Amount remaining: the amount of green bond quota left since the last approval from regulators.

Approved Green Bonds in 2017 with remaining quota

Issuer/potential issuer	Amount approved	Amount remaining	Approval Date	Regulatory Authority
Shanxi Jincheng Anthracite Coal Mining Group	2bn	2bn	15/11/17	NAFMII
Xinjiang Tianye Group Limited	220m	220m	16/11/17	NAFMII
Bank of Hebei	5bn	5bn	01/11/17	CBRC, PBoC
Elion Clean Energy Company Limited	530m	530m	01/11/17	SSE
Yancheng Chengnan New District Development Construction	2bn	2bn	22/11/17	NDRC
Henan Zhongfu Industry Co. Ltd.	900m	900m	01/11/17	SSE
Bank of Kunlun	500m	400m	30/11/17	CBRC, PBoC
China Gezhouba Group Lvyuan Technology. Co. Ltd.	1.2bn	1.2bn	08/12/17	CSRC
Anhui Huangshan Construction Investment Group Co. Ltd.	850m	850m	10/12/17	NDRC
Zhuhai Huafa Multi-Business Development Co. Ltd.	1.5bn	1.5bn	13/12/17	CSRC
China Jinmao Holdings Group Limited	4.4bn	4.4bn	14/12/17	CSRC
Seven associated companies of Huadian Fuxin Energy Company	840m	840m	15/12/17	SSE
Zhejiang Huayou Cobalt Co.,Ltd	700m	700m	01/12/17	SSE
Kong Sun Yongtai Investment Holdings Co., Ltd. - Green ABS	630m	630m	22/12/17	SSE
Chongqing Qianjiang City Construction Investment (Group) Co. Ltd.	2.2bn	2.2bn	22/12/17	SZSE
Jinyuan Cement Co. Ltd.	800m	800m	25/12/17	SZSE
China Jinmao Holdings Group Limited	2.2bn	2.2bn	27/12/17	SSE
Guangdong Guangye Group Co. Ltd.	1.9bn	1.9bn	28/12/17	NDRC
MLS Co. Ltd.	1.5bn	1.5bn	28/12/17	NDRC
Yiwu State-owned Capital Operation Co. Ltd.	1.5bn	700m	N.A	NAFMII
China Three Gorges	20bn	18bn	N.A	NAFMII

Regulatory system of the Chinese bond market

Bond type	Regulatory authority	Green bond related policies
Sovereign bonds	Ministry of Finance	
Municipal bonds	Ministry of Finance	
Financial bonds	PBoC, CBRC	The People's Bank of China Announcement No. 39 (2015)
Credit asset-backed securities	PBoC, CBRC	
Non-financial corporate debt financing instruments (including medium term notes and short-term commercial papers)	PBoC, NAFMII	Guidance on Debt Financing Instruments Issuance from Non-Financial Corporates
Enterprise bonds*	NDRC	NDRC Green Bond Guidelines
Corporate bonds (including exchangeable bonds, convertible bonds, and perpetual bonds)	CSRC, stock exchanges	Guidelines for Supporting Green Bond Development Notice on Green Bonds Pilot Program
Corporate asset - backed securities		

*Mostly SOEs

PBoC People's Bank of China

CBRC China Banking Regulatory Commission

NDRC National Development and Reform Commission

NAFMII National Association of Financial Market Institutional Investors (directed by PBoC)

CSRC China Securities Regulatory Commission (*stock exchanges are regulated by CSRC)

2017 detailed charts and data: LGFVs and verifiers lists

Table: Local Government Financing Vehicles green bond issuers

LGFV green bond issuers	Municipality	Province
Nantong Eco & Tech Development Zone	Nantong	Jiangsu
Liuyang Manu & Development	Liuyang	Hunan
Yiwu State-owned Capital Operation Co.	Yiwu	Zhejiang
Yunnan Water Investment Co. Ltd.	/	Yunnan
Danyang Investment Group Co. Ltd.	Danyang	Jiangsu
Jingjiang City Investment Co. Ltd.	Jingjiang	Jiangsu
Shaanxi Xixian Xinqu Fengxi Development	Xi'an	Shaanxi
Wuhan Metro	Wuhan	Hubei
Kaifeng City Development Investment	Kaifeng	Henan
Guangzhou Development Group	Guangzhou	Guangdong
Pingxiang Huifeng Investment	Pingxiang	Jiangxi
Yangzhou Construction Investment	Yangzhong	Jiangsu
Zhenjiang Dantu Investment	Zhenjiang	Jiangsu
Anhui Tongling Development Investment	Tongling	Anhui
Tibet Investment	/	Tibet Autonomous Region

*Information from the China Banking Regulatory Commission's local government financing vehicles list

List of Climate Bonds Initiative approved verifiers operating in China

- Bureau Veritas (BV)
- Ernst & Young (EY)
- KPMG
- SynTao Green Finance
- Zhongcai Green Financing
- China Lianhe Equator
- Deloitte
- Carbon Care Asia Limited (CCA)
- China Quality Certification Centre
- Raising Clean-tech Investment Consulting
- China Chengxin International Credit Rating (CCXI)

Notes on figures and exchange rates:

All figures are rounded in this report. Exchange rates may vary throughout the report. Rather than a fixed rate, the actual exchange rate on each bond's issuance date is reflected.

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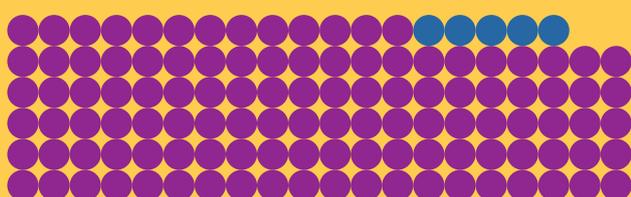
In the past year, China has cemented its position as a key player in the global green bond market with its issuer base expanding and diversifying. Much of the growth can be attributed to successful policy drivers initiated by different regulators as well as an overarching increase in environmental issues on the president Xi's agenda.

This is our second annual China Green Bond Market report, this year in association with CCDC and supported by HSBC. This report summarises the key developments that have taken place during the year, focusing on issuance, policy development and wider market growth.

2017 Highlights:

Number of bonds: 118

Onshore vs. Offshore issuance:



● **Onshore: 113 bonds**

● **Offshore: 5 bonds**

Total amount issued:

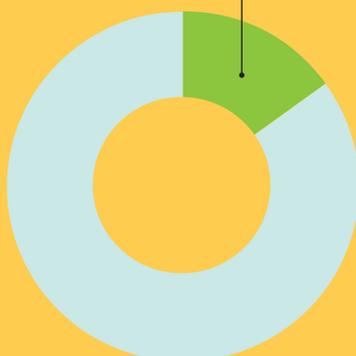
USD37.1bn (RMB 248.6bn)

**Offshore: USD6.6bn
(RMB44.1bn)**

**Onshore: USD30.5bn
(RMB204.5bn)**

Issuance aligned with international green definitions:

USD22.9bn
(RMB154.3bn)
15% of global market



Climate Bonds Certified China's issuance:

USD6.01bn (RMB40.2bn)

Largest issuer:

China Development Bank

This report is available in both English and Chinese on Climate Bonds Initiative website (www.climatebonds.net)

Authors:

Alan Xiangrui Meng, Ivy Lau, Bridget Boule
Climate Bonds Initiative
with the help from Sen Chen, Xiaoyi Liu, Tianyu Liu,
China Central Depository & Clearing Company

Design: Godfrey Design

Source data from Climate Bonds Initiative, CCDC, Wind, Bloomberg, Thomson Reuters Eikon and other parties. All figures are rounded.

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