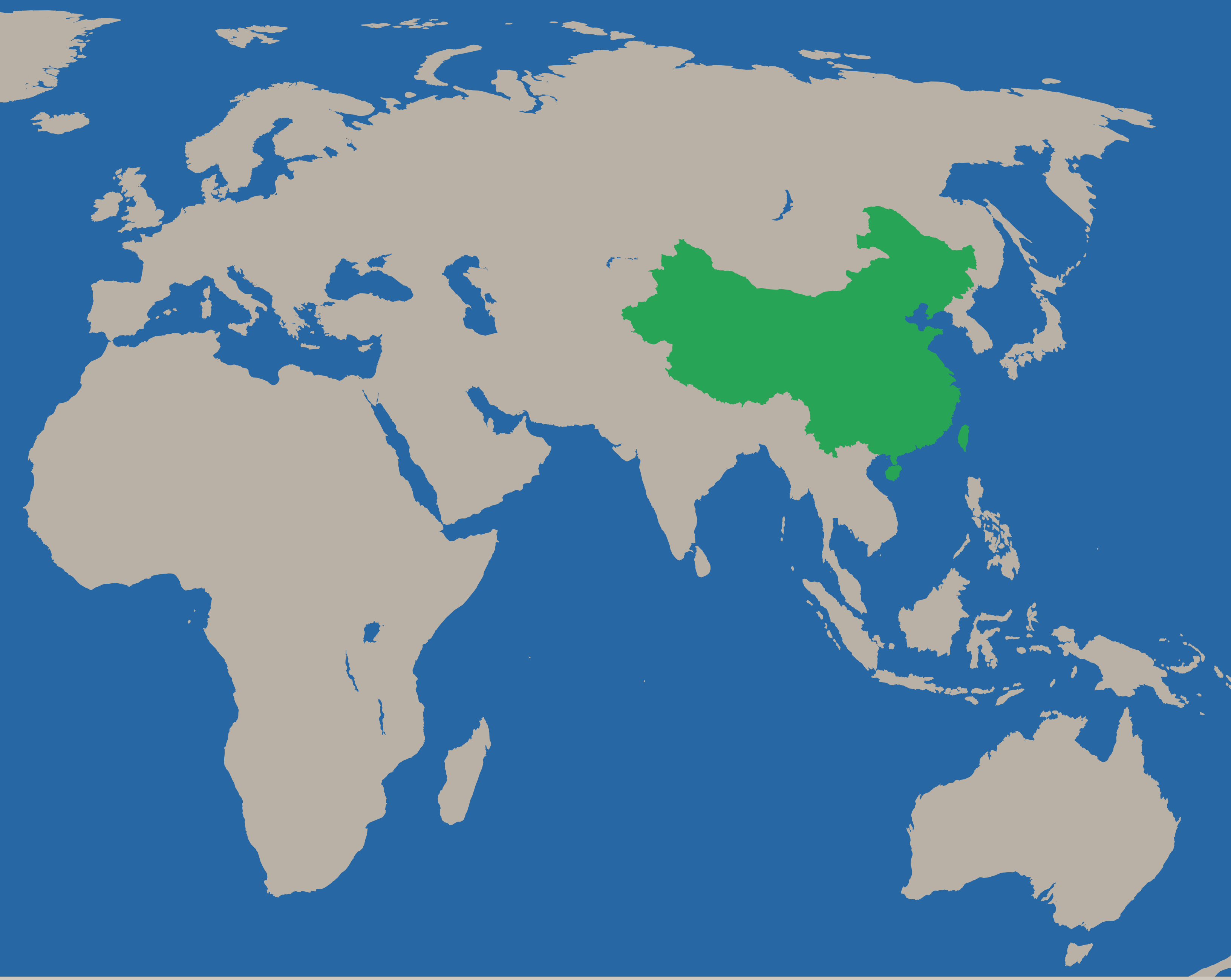
Facilitating Cross-Border Capital Flows to Grow the China Green Bond Market



中誠信25th

Climate Bonds Initiative

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As a firm believer of the idea of sustainable development, CCX has already developed strategic partnership with several local governments, and is committed to provide independent, professional green finance advisory service to all market stakeholders.

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Introduction

China has provided strong policy signals around their intent to develop a green bond market and to achieve a rapid transition towards a green economy. In 2016, green bond issuance from China increased from almost zero to RMB246.5bn (USD36.2bn), accounting for 39% of global issuance. International investors with relatively low interest rate requirements can be an important source of capital to finance China's green transition.

However, barriers such as lack of awareness of green bond issuance opportunities, differences between international and Chinese green definitions, and limited understanding of China's green bond market need to be addressed in order to facilitate cross-border capital flows to China's green bond market.

Other more fundamental issues in attracting foreign investors to Chinese green bonds include approval process of overseas bond issuance, capital flow controls, lack of hedging options, barriers to entering China's bond market, and transparency of domestic credit ratings.

As a result, although China is the third largest bond market in the world behind the USA and Japan, only 2% of the bonds are foreign-owned.[1] With the current market of USD 9 trillion forecasted to double in the next 5 years, tackling these issues can also pave the way for introducing overseas capital to China's green bond market.

This discussion paper first explores the challenges of increasing inter-country capital flows into China's green bond market. Following consultation around the issues identified, the paper also puts forward potential measures and solutions to facilitate inter-country capital flows to support the expansion of China's green bond market.

Identified Challenges and barriers

For offshore green bond issuance:

- Lack of awareness of green bonds among potential issuers
- Limited knowledge of Chinese green bond market by international investors
- Approval process of green bond issuance overseas

For international investors in onshore green bonds:

- Differences between China's green definitions and internationally accepted green definitions
- Lack of information on China's green bond market
- Domestic market access
- Capital flow controls
- Lack of hedging tools
- Domestic credit ratings

1. http://www.chinabond.com.cn/cb/cn/xwgg/cjxw/cjyw/gnxw/20170518/147368138.shtml

Recommendations (see Table 2 for more details)

Market Education and Information Sharing:

- Raising Chinese issuers' awareness of green bond opportunities through market education activities and demonstration issuance
- Improving international investors' understanding of China's green bond market through investor roadshows and engagement platforms
- Developing green bond database, indices and ETFs

Policy, Guidance and Incentives:

- Establishing and using internationally accepted green bond standards and Certification schemes
- Simplifying approval process for green bond issuers
- Providing guidance on reporting and disclosure
- Providing clearer policy guidance on market entering schemes
- Providing clear policy signals and guidance on capital flow controls to manage investors' perceptions

Market Infrastructure:

- Developing RMB hedging instruments
- Improving domestic credit rating practice
- Opening the market to international credit rating agencies

1. Context: China's need for international capital for green investment

China is facing enormous environmental challenges

Over the past three decades China's economy has become a global success. China is now the world's second largest economy with an expected annual GDP growth rate of 6.5%.[2] This economic success has, however, come at an immense cost for the environment – a cost that current generations are beginning to deal with and one that will continue to impact future generations, particularly their health and quality of life.

In China, the importance of ensuring that new urban developments and infrastructure are green is increasingly understood, as major cities are grappling with intense air pollution and clean water problems. Climate change is now well understood at senior levels of government as the next environmental challenge, with potentially devastating impacts on China in coming decades.

Mobilising international private capital helps address the investment gap

The private sector will be the largest source of capital for the green transition

An estimated annual investment of at least RMB 2 trillion-4 trillion (USD 320billion-640 billion) will be required for the country to address environmental issues and climate change.[3] The PBoC has made a clear statement that public investment alone will not be sufficient to meet this need; public funds will only contribute 10-15% of the required investment, with the private sector expected to be by far the largest source of capital for the green transition, contributing up to 85-90% of investments.[4] Institutional investors, particularly pension and sovereign wealth funds, are increasingly looked to as viable actors to fill the financing gaps.

Using the green bond market to mobilise private capital

Currently, policy guidance has played an important role in developing green finance in China, with government-oriented green funds and green projects dominating the market. There is now a need for China to use a range of market mechanisms to increase private capital participation in the development and growth of green finance.

Bonds are the ideal security with relatively stable, predictable returns and long-term maturities. This makes them a good fit with institutional investors' investment objectives of relatively low risks investments to match relatively long-term liabilities. Labelled green bonds are bonds with proceeds used for green projects, mostly climate change mitigation and/or adaptation projects, and labelled accordingly. They provide a valuable tool for investors looking to invest in green projects.

Diversification encourages investors to increase exposure to China

As China opens up its market to overseas investors there is an increasing opportunity to attract international investors seeking diversification. Global investors spread their performance risks across major economies, while China and exposure to the Renminbi have been missing from their portfolios in the past.

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2. http://www.gov.cn/zhengce/2017-03/05/content_5173495.htm
3. http://finance.china.com.cn/money/bank/ yhyw/20160317/3631992.shtml
4. People's Bank of China/United Nations Environment Programme.

International organisations have been facilitating this exposure. In March 2015, FTSE Russell launched the FTSE China Onshore Bond Index Series, enabling international investors to access the world's third largest onshore bond market.[5] Around USD30 billion, or 60% of assets under management of China themed ETFs listed globally are benchmarked to the FTSE China Indexes.[6] In June 2017, MSCI has announced that it will include 5% of free-floating stocks in 222 Chinese firms in its global index. It is estimated that, as a result, there will be an initial capital flows into China's equity market reaching USD 17-18 billion.[7] A greater inflow of funds into China equities is expected in the longer run from actively-managed funds.

This demonstrates international investors' intention to increase their exposure to China, setting the scene for inter-country capital flows into China's bond market.

There is high demand for green investments from international investors

Investors concerned about climate-related risks have created strong demand for fixed income investments that help mitigate these risks. This has mainly come from investors seeking to switch to green in their mainstream portfolios as more green assets come to market.

Fund managers such as pension funds and sovereign funds have been increasing their understanding of environmental risks over the past ten years. Mainstream asset managers have been formalising their ESG integration processes. For example, Blackrock has added ESG factors into its primary risk system, Aladdin. The insurance industry has commitment to a tenfold increase climate-smart investment by 2020.[8] The UK Government has suggested that the insurance sector should invest in green bonds in order to mitigate climate change risks.[9]

More recently, institutional investors such as BlackRock, Amundi, Axa and Allianz have been creating green bond funds. BlackRock, the world's largest fund manager, recently launched their third dedicated green bond fund.[10]

A survey conducted by the Official Monetary and Financial Institutions Forum (OMFIF) also showed that among Chief Investment Officers and reserve managers at public sector institutions with combined assets under management of $4.21 trillion, 38% are planning to buy more green bonds.[11]

With scarce supply despite strong demand, oversubscription for green bonds is the norm. Being able to invest in green products abroad means that investors can have access to investment opportunities, which help them meet their mandates for green investment.

Facilitating the participation of foreign private sector capital into China's green bond market is vital to tap into this demand.

Offshore green bond issuance helps diversify and widen the investor base

By issuing green bonds offshore or by introducing international investors to China's domestic green bond market, Chinese issuers can expand and diversify their investor base and inform a wide network of potential investors through the placement process. Issuing green bonds overseas can provide an optimised, blended cost of finance over time. This will ensure broader liquidity and, eventually, improve on issuing terms and conditions.

5. http://www.ftse.com/products/indices/China-RMB-Onshore
6. https://www.msci.com/eqb/pressreleases/archive/2017_Market_Classification_Announcement_Press_Release_FINAL.pdf
7. http://www.scmp.com/business/china-business/article/2101055/msci-chinas-capital-controls-trading-halts-are-foreigners
8. http://newsroom.unfccc.int/financial-flows/un-climate-summit-financing/
9. Bank of England (2015). *The Impact of Climate Change on the UK Insurance Sector*.
10. https://www.responsible-investor.com/home/article/blackrock_ launches_dedicated_green_bond/
11. http://www.reuters.com/article/us-global-cenbank-assets-idUSKBN1930CU

Recent offshore green bond issuances such as Certified green bonds from the Bank of China and China Development Bank (November 2017), Certified "Belt and Road" climate bond from ICBC (October 2017), and China Three Gorges Corporation's Certified green bond (June 2017) have demonstrated the benefits of issuing a green bond offshore for Chinese issuers. All these bonds were notably oversubscribed and attracted a new and wider investor audience from across the globe.

International investors can share experience with domestic Chinese investors on green investments

Green investment in China is still at the early stage of development and the majority of new green investors are public fund managers: among the 97 major fund managers in China, only 23 funds have some investment in assets/projects related to green, low carbon, environmental protection and/or social responsibility.[10] International investors specialised in green investments can bring their know-how to educate and inform new domestic investors. They can also bring best practices and experience on how to assess green investments based on international standards and analytics.

Experienced international green investors can lead the way for Chinese investments in green assets/projects through green bonds, creating the momentum for green investment in China. For example, UN PRI is working with AMAC in China to provide training on environmental risks faced by the investor community, and share international investors' experience of mitigating risks through green investment. This could drive further development of China's green bond market by mobilising more domestic investors.

12. Asset Management Association of China (2015).

2. The state of the Chinese green bond market

2.1 China has set strong policy signals around developing green bonds and green finance

China's 13th Five Year Plan (FYP)[11] has emphasised the importance of addressing environmental issues as well as climate change, and has championed the development of a green financial system, including green bonds.

In August 2016, the national Guidelines for Establishing the Green Financial System were released jointly by seven ministries in China, led by the country's central bank and the People's Bank of China (PBoC). The document proposes 35 measures around the development of a domestic green financial system.

China has also shown global leadership on green finance: during its G20 presidency China set up a Green Finance Study Group (GFSG), jointly chaired by PBoC and the Bank of England, creating for the first time a global green finance work stream.[12]

2.2 Global growth in green bond issuance was driven by China

China has clearly demonstrated strong leadership support to build and further develop a green bond market as a key constituent of accelerating the transition towards a green economy. With this support, the growth of green bonds can be clearly observed with total issuance now of RMB431.533bn (USD64.34bn)[13], making China the world's largest green bond market.

The majority of green bonds were issued on the China Interbank Bond Market (CIBM) with banks responsible for 76% of issuance and corporates for 24%. Within this issuance there are still some differences in the underlying green definitions with 35% of the issuance not meeting internationally defined norms. Clearly the move towards fully recognised criteria on green credentials should allow greater expansion of this important market.

2.3 Key facts about China's green bond market

China's green bond market consists of two markets with strong issuance in the domestic (onshore) market and slower development of the offshore market.

Onshore green bond market

China's *onshore* green bond market is growing rapidly, with issuance reaching RMB366.26bn (USD54.67bn) as per the end of October 2017.

- Financial sector green bonds account for the largest share. There were 203 green bonds issued.[14] The majority were from banks, with an increasing number of corporate bonds and asset-backed securities.

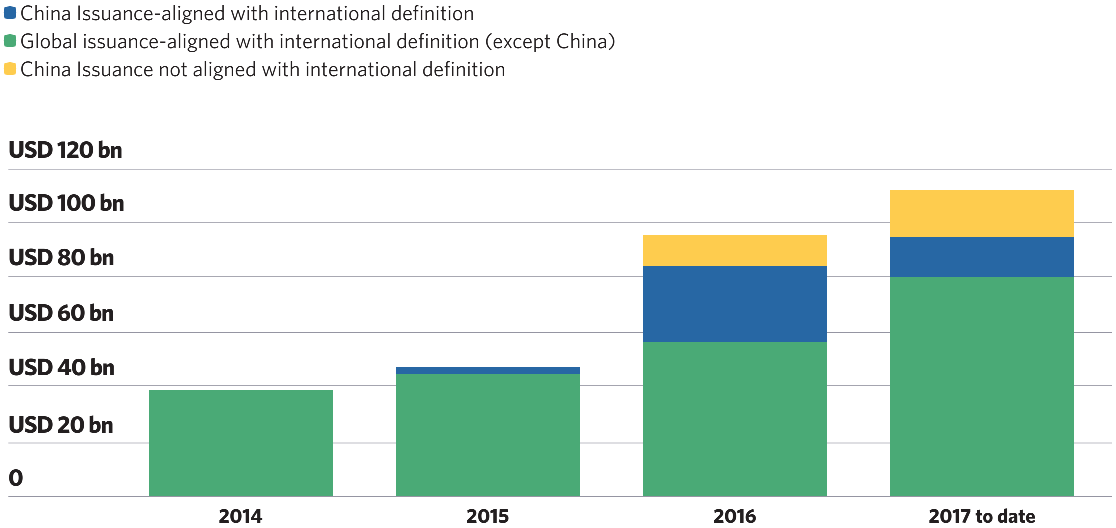
- Diversified use of proceeds. Green bonds from banks are financing a wide range of projects, with investments having to be compliant with the China Green Bond Endorsed Project Catalogue. Green bonds issued from non-financial corporates are mostly used in clean energy, energy saving and transport sectors.[15]

13. Approved by China's National People's Congress (NPC) in March 2016.
14. Ma Jun, Simon Zadek (2016). G20 Must 'Reset' Global Economy to Fund Low-carbon Development.
15. As of the end of October 2017; including green bonds not aligned with green definitions in the international market.
16. Tranches are counted separately.
17. China Energy Conservation and Environmental Protection Group (2017).

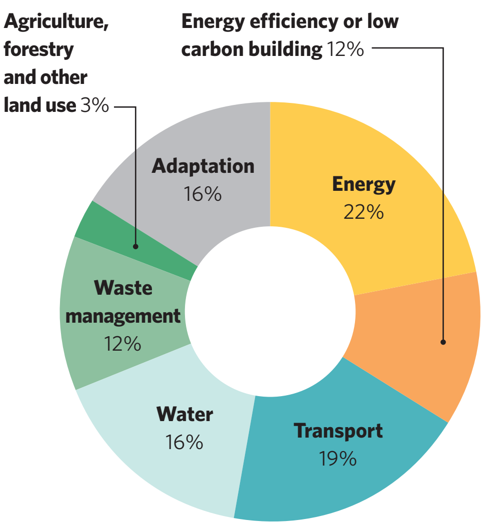
- Most green bonds are rated investment-grade by local rating agencies. Domestically rated AAA bonds make up 68%. Chinese domestic issuers use local rating agencies; offshore issuance generally uses international rating agencies.

- More than 40% of Chinese green bonds have tenors from 5 - 10 years. The average tenor for Chinese green bonds is approximately 4.7 years. This is lower than the global green bond market, which is approximately 6.8 years – but slightly higher than the average tenor in the overall Chinese bond market, which is 3.6 years.[16] Only 6.4% of Chinese green bonds have tenors of 10 years or longer.

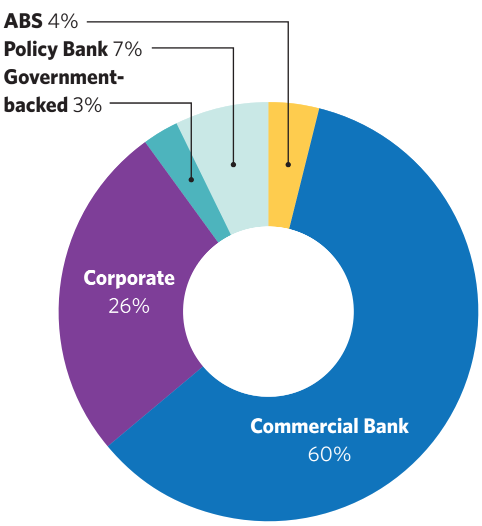
China Green Bond Issuance



Themes



Diversified issuer base



18. Source: China Central Depository & Clearing (2017).

Offshore green bond market

Until the end of October 2017, there were 7 *offshore* green bonds issued by six entities with a total issuance amount of USD7.9bn.

- Bank of China is one of the most active issuers of the offshore green bonds with two bonds totalling USD3.7bn.
- China Three Gorges has issued China's first Certified green bond under the Climate Bonds Standard in June 2017 with an amount of EUR650m (USD726m). Following that, the world's biggest bank ICBC also issued a USD2.1bn Certified green bond in November 2017.
- Proceeds raised by these bonds will be allocated to a variety of projects including Energy, Transport, Water, Waste and Pollution Control, as per the green definitions in the Climate Bonds Taxonomy.
- The first green dual recourse bond was issued by the Bank of China on the London Stock Exchange, backed by a portfolio of domestic Chinese climate-aligned bonds which are included in the China Bond China Climate-Aligned Bond Index. It was over 1.8 times oversubscribed with a final order book of USD900m and was priced 95 bps tighter than BoC's senior unsecured debt with the same tenor.
- Agricultural Bank of China was the first Chinese issuer to issue a green bond in the international green bond market.

Table 1 – List of Chinese green bond issuers in overseas market

Issuer	Issue month	Size (USD)	Jurisdiction of issuance	Use of proceeds	Verifier	Climate Bonds Certified
Agricultural Bank of China	December 2015	994m	UK	Mixed (i)	Deloitte	No
London Taxi Co. (Geely)	May 2016	400m	Singapore	Transport	n.a	No
Xinjiang Goldwind	May 2016	152m	Hong Kong, China	Energy	DNV GL	No
Bank of China	July 2016	3.03bn	Luxembourg and US	Mixed (i)	EY	No
Bank of China	November 2016	500m	UK	Mixed	EY	No
China Three Gorges	June 2017	725.9m	Ireland	Energy	EY	Yes
Industrial and Commercial Bank of China	October 2017	2.15bn	Luxembourg	Mixed (ii)	Zhongcai Lvrong	Yes
China Development Bank	November 2017	1.62bn	Hong Kong and Germany	Mixed (iii)	EY	Yes
Bank of China	November 2017	1.45bn	France	Mixed (iv)	EY	Yes

(i) Energy, Transport, Water, Waste (ii) Solar, Wind, Low Carbon Transport (iii) Low Carbon Transport, Wind, Water (iv) Low Carbon Transport, Wind

China has a strong potential for further growth

The People's Bank of China (PBoC) has indicated that the rate of growth in green finance initiatives will be aggressively maintained. China's Belt and Road Initiative, which requires massive investment for infrastructure projects, provides huge opportunities for green bond issuance within and outside China. This represents a substantial investment opportunity for international investors looking for green financial product.

Box 1 China Interbank Bond Market

China has the third largest bond market with the majority of bonds being issued and traded in the CIBM. The Chinese authorities have introduced a range of planned and structured market opening measures to facilitate greater overseas involvement to match the growing demand for RMB assets and support investor diversification objectives. Moreover, the internationalization of the RMB and inclusion into the Special Drawing Rights (SDR) has increased and may further raise demand for domestic market opportunities from long term investors.

From initial access via approved QFII/RQFII schemes the PBoC has further facilitated international investor participation by the introduction of 'Direct Access to CIBM' in 2016[17] and importantly the very recently announced 'Bond Connect Programme' launched in Hong Kong.[18] Each of these initiatives demonstrates the strong commitment and support given for overseas investors to have confidence to participate in the domestic bond market from the Chinese authorities.

19. http://www.pbc.gov.cn/tiaofasi/144941/144959/3021203/index.html
20. https://www.ft.com/content/41a9eedc-5f97-11e7-91a7-502f7ee26895

3. Challenges to introducing overseas capital to China's green bond market

As an emerging asset class, green bonds are part of the conventional bond market in terms of regulations and processes. However, the underlying investment objective of green bonds is very specific and is the reason why global investors make an allocation to such investments that can address environmental issues including climate change.

Building a new asset class for green bonds is not easy. Many different actions are needed simultaneously to both understand the underlying investments (qualified as "green") and the risk profile of these investments. Several challenges have been identified to growing offshore green bond issuance from China and encouraging overseas capital flows to the Chinese green bond market.

3.1 Challenges to offshore green bond issuance

Lack of awareness of green bonds among potential green bond issuers

Although there is benefit of lower funding costs if issuing green bonds offshore in traditional currencies (USD, Euros), many domestic Chinese issuers are not fully aware of the opportunities. To increase interest in issuing green bonds offshore, Chinese issuers need to have a better understanding of the benefits of offshore green bond issuance compared to an onshore standard or green bond one.

There is also a need for Chinese issuers to have a better understanding of the green bond requirements that must be met to align with international investors' needs. For example, the quality of reporting and ongoing adherence to Green Bond Principles (GBP) is of significant importance, and the requirements under GBP might be different from those in the Chinese green bond market. Meeting the requirements of international markets may bring additional costs to Chinese issuers.

More broadly, capacity building amongst Chinese issuers is also important. To achieve the desired scale of issuance, one challenge is to encourage issuers that currently have portfolios of suitable green projects to access the green bond market to finance their projects. Information on the process of green bond issuance in the international market will further benefit Chinese issuers.

Limited knowledge of the Chinese green bond market by international investors

Overseas investors need to be fully confident in green issuers meeting all requirements to satisfy their investment mandates. Although well recognised in the domestic market, several Chinese issuers (particularly SOEs) are less well known by some international investors, thereby having to pay a premium compared to global peers in the same sector, despite sharing the same international credit rating. With a lack of knowledge, and sometimes trust, in some Chinese issuers there may be a bias to invest in an international competitor in domestic markets. As a result, the cost of funding to issue offshore might not be attractive for potential Chinese green bond issuers.

Approval process of green bond issuance overseas

Approval for offshore bond issuance requires formal registration with domestic regulators such as the National Development and Reform Commission (NDRC). Regulators have been alleviating approval requirements for overseas bond issuance. In 2015, NDRC published new rules for overseas bond issuance[19]: the approval process has been simplified and the quota limitation of issuance size has been cancelled (see Appendix 1 for overseas bond issuance process under NDRC rules). However, it is still uncertain how long it will take for the whole process and the final authorization to be formally communicated.

3.2 Challenges for international investors to access the onshore green bond market

Differences between China's green definitions and internationally accepted green definitions

As stated earlier, the majority of domestic green bonds meet international green definitions. China's green bond reporting requirements and categories of eligible green projects (as set out in the *China Green Bond Endorsed Project Catalogue*) are mostly aligned with those covered by the international guidelines and standards of the Green Bond Principles and the Climate Bonds Taxonomy and Standard.

However, there are some differences, notably the inclusion of fossil fuel projects including coal-powered generation, clean coal and high-efficiency transport fossil fuel (petrol and diesel) production. These fossil fuel projects are eligible for green bonds based on China's green definitions, but are rarely accepted by investors on the international green bond markets.

These differences create concerns amongst some investors on two fronts: the investor may have invested in projects that their clients do not consider as green, creating a conflict with their green mandates, which may cause reputational risks; also, the investor may doubt whether investment will meet the criteria of eligibility for green index inclusion. This is important as investors measure their performance against indices and passive investors may focus their investment in bonds included in the index.

Due to these concerns, international investors may have to conduct additional due diligence on the environmental impacts of green bonds from Chinese issuers, increasing their transaction costs and possibly shying them away from such investments.

Lack of information on China's green bond market

Other than undertaking detailed and costly due diligence on the underlying assets of green bonds, investors rely on the integrity of issuer reporting and external reviews to make investment decisions. Without long term experience of investing in China, some investors are less confident about increasing their exposure due to the lack of publicly available information on use of proceeds, post issuance disclosure and external reviews, which may limit the funds allocated to the Chinese market.

21. http://www.ndrc.gov.cn/gzdt/201509/t20150915_751047.html

In addition, the majority of Chinese issuance has been for the domestic market with accompanying disclosure in Chinese and reported through different channels to those used for international green bonds. This means that without Chinese-speaking staff members, many investors and market participants are often unaware of the breadth of information that exists.

Domestic market access

The Chinese authorities have promoted greater access to the domestic bond market through different channels, though there are varying requirements to be met depending on the method chosen (see more details on market entering schemes in Appendix 2). These differing requirements and possible approval processes may act to the detriment of boosting overseas participation.

For example, QFII/RQFII require investors to apply for a license and quota limit before entering the domestic market. This restricts the number of green bonds they can invest in. The 'Direct Access to CIBM' route calls for investors to register with the PBoC initially and then identify a qualified onshore agent bank to invest through. The 'Bond Connect Programme', which was launched in July 2017, seeks to facilitate smoother access to the domestic bond market, however many foreign investors are not fully aware of the technical details of its operation.

Capital flow controls

Although cognizant that the Chinese government has the authority to monitor and control capital flows, international investors clearly view this as significant challenge given the need to remit interest payments and redemptions that may be made. With possible uncertainty in the direction of capital controls this may restrict both the maturities of bonds held and the overall level of investment.

Lack of hedging options

The Renminbi is now included in the IMF's Special Drawing Rights (SDR) basket alongside the USD, the Euro, the Yen and the British Pound which has raised its status as an international currency. With the greater stability that such a status implies, some commentators have supported the RMB-denominated bonds as being attractive and some of the highest yielding in the market.

It is important to international investors that they can hedge the currency risk when they choose to invest in RMB-denominated bonds. Currency risk arises when there is a mismatch between the currency of assets and liabilities that an investor holds, for example a French pension fund with liabilities in Euros, investing in RMB green bonds. Many investors are still concerned that access to the Chinese domestic FX market is limited, which could negatively affect the efficiency or cost of hedging. With the continued development of the RMB FX market it will be important to continue to offer an increased range of hedging tools to allow overseas investors to effectively manage their currency risk. Actions taken recently relating to the formation of the exchange rate and measures taken to support stability will be beneficial to increase the range of derivatives available.

Domestic credit ratings

Almost all of the bonds in China (92%) are rated by domestic credit rating agencies. There are 10 main credit rating agencies for the Chinese bond markets with the three main agencies controlling 80% of the market: China Chengxin International Credit Rating, China Lianhe Credit Rating and Dagong International Credit Rating.

There are more than 4,000 corporate bond issuers in China with over 51% rated AAA. This reflects the legacy factors with SOEs, which are among the largest issuers, are underwritten by Chinese banks and historically carry a low default rate. This is changing as the Government reforms the SOEs and allows defaults, but it will take time.

International investors are not familiar with the methodologies utilised by domestic rating agencies in China, nor do they fully understand the potential credit risks relating to green bonds assigned by these agencies compared to their comfort with international credit rating companies. From this it is conceivable that:

- To avoid unforeseen credit risks international investors may not invest in green bonds issued in the domestic market only rated by domestic credit rating institutions.

- They may choose to undertake their own due diligence and analysis on the domestic issuer, adding cost to the transaction.

4. Recommendations and action plans

Table 2 Summary of recommendations and action plans

Recommendation Area	Challenges Addressed	Action Plan	Actor
Market education and information sharing	Lack of awareness among potential Chinese green bond issuers	Raising Chinese issuers' awareness of green bond opportunities through:	
		• Market education activities for capacity building among Chinese issuers	Underwriters such as ICBC and HSBC; market infrastructure organisations such as CCDC, Qianhai Financial Holding and stock exchanges.
		• Demonstration issuance in the international green bond market	Trusted and well-recognised entities such as Bank of China.
	Limited knowledge by international investors	Improving international investors' knowledge of China's green bond market through: • Investor roadshows with Chinese issuers	Stock exchanges; Investor alliance such as the Principles for Responsible Investment (PRI).
		• Investor engagement platforms such as Green Infrastructure Investment Coalition (GIIC)	Green Infrastructure Investment Coalition (GIIC), Coalition of Green Development on the Belt and Road, and China's Green Finance Committee
		Developing green bond databases, indices and ETFs	Leading market data providers such as Bloomberg, Thomson Reuters and Wind, and stock exchanges.
Policy, guidance and incentives	Differences between China's green definitions and internationally accepted green definitions	Establishing and using internationally accepted green bond standards and certification scheme: • Developing a certification scheme based on harmonised green bond standards	PBoC and EIB
		• Use of international Climate Bonds Standard and Certification Scheme	
	Approval process of green bond issuance overseas	Simplified and clearer approval process for green bond issuers	NDRC
	Domestic market access	Policy support (simpler application procedure) and guidance on market entering schemes	PBoC
	Limited knowledge by international investors	Providing guidance on reporting and disclosure	PBoC, NDRC and CSRC
	Capital flow controls	Providing clear policy signals and guidance to manage investor perception on capital controls	PBoC and State Administration of Foreign Exchange (SAFE)
Market Infrastructure	Lack of hedging tools	Developing RMB hedging instruments	SAFE
	Domestic credit ratings	Improving domestic credit rating practice and transparency	Large domestic rating agencies such as CCXI and Golden Credit.
		Opening the market to international credit rating agencies	International rating agencies including Moody's and S&P

4.1 Market education and information sharing

Raising Chinese issuers' awareness of green bond opportunities

Market education activities for capacity building among Chinese issuers Programs can be introduced to inform and educate issuers about the benefits and challenges of green bond issuance compared to standard bond issuance and how to issue offshore. Chinese issuers need step-by-step guidance on green bond issuance, and clarifications on how the process may differ in the domestic market and in the international market. For Chinese issuers aiming to attract international capital, they may need additional support in navigating international green bond standards and guidelines, such as the Green Bond Principles and the Climate Bonds Standard.

Underwriters who have been active in the green bond market such as ICBC, Bank of China and HSBC, and market infrastructure organisations including CCDC, and stock exchanges, and financial platforms such as Qianhai Financial Holding. This can be done by hosting market education workshops with potential Chinese green bond issuers, through cooperation with international organisations which have experience in the global green bond market, such as the Climate Bonds Initiative.

Demonstration issuance in the international green bond market Green bond demonstration issuance from trusted and well-recognised entities in the international markets can play an important role in leading the initial development of offshore green bond issuance. Such demonstration issuance can showcase to issuers the process of listing a green bond overseas as well as help engage international investors and make them familiar with Chinese issuers. This could gradually build Chinese issuers' confidence in issuing green bond overseas, and create momentum for further green bond issuance.

Demonstration issuance can come from both the private and public sectors. Issuance from public entities also has an important signalling effect to other potential domestic issuers and international investors that the government is committed to developing green bond markets as part of its strategic financial response to address environmental and climate issues.

In July 2016, Bank of China has issued a multicurrency five-tranche green bond, listed in London, Luxembourg, Frankfurt, Berlin, and Hong Kong, comprising 2-year, 3-year and 5-year bonds in USD, EUR and CNY to raise USD3.03 billion after drawing orders of about USD7.8 billion across the tranches. At its height, Bank of China's green bond – reviewed by EY to show that funds raised will be used for environmental projects – had attracted orders of USD8.5 billion. This is a good example of demonstration issuance, which helps investors in various jurisdictions learn more about Chinese green bond issuers.

Improving international investors' understanding of China's green bond market

Investor roadshows with Chinese issuers To support greater understanding from an investor perspective it would be beneficial to facilitate improved and increased methods of communication with potential domestic issuers. The establishment of regular pre-sale roadshow meetings between investors and issuers, which are well recognised in global debt markets, would allow issuers to showcase their green bond issuance plans. Equally, investors can achieve a greater level of understanding of the domestic client and hopefully consider investments with a greater level of confidence.

For example, in December 2016, the Climate Bonds Initiative in partnership with London Stock Exchange hosted an investor roadshow for Brazil in London, with Brazil's most prestigious companies and financial institutions presenting on green investment opportunities in a variety of sectors including renewable energy, agriculture and forestry to European investors.[20] Similar forums can be hosted for Chinese issuers, as well. PRI, as the world's leading proponent of responsible investment who is well connected with the global investor community, can also play an important role here.

Engagement platform and forums

It is also important for international investors to learn about China's ambition on green economy which underpins the development of its green bond market, and to understand the country's long-term green infrastructure plans in order to further explore green investment opportunities.

Internationally, the Green Infrastructure Investment Coalition (GIIC), a platform convening governments, project developers (potential green bond issuers), investors and financial institutions has been established to facilitate the process of green investment.[21] Building on the GIIC, China could establish such a platform to demonstrate green investment opportunities for international investors. Policy makers in China can use GIIC to show their ambition to address environmental issues and to achieve NDCs, and the corresponding long term green infrastructure plan.

The engagement platform can host forums to enhance communications among all participants. This can be done in collaboration with the International Coalition of Green Development on the Belt and Road established by China and UNEP[22], as the Belt and Road Initiative will create huge investment opportunities for infrastructure projects with possible implications for green bond issuance within China and across borders.

To demonstrate the importance of this platform it could fall under the auspices of the China Green Finance Committee.

Green bond databases, indices and ETFs

By providing access to a well-recognised database of Chinese green bonds, international investors could identify information needed from an easily accessible source which may allow a greater level of comfort to invest. Moreover, consideration could be given to differentiating the issuers that fully meet international green definitions and those that do not by providing different fields within the database. As with other financial products, leading market data providers such as Bloomberg, Thomson Reuters and Wind could play a key role in developing such a database.

Such a database can be used by the Hong Kong Stock Exchange to establish a green bond segment which allows international investors to invest in Chinese green bonds through the Bond Connect Programme, i.e. by developing a "Green Bond Connect Programme".

There are several indices developed for Chinese green bonds such as the China Climate-aligned Bond Index[23] and CUFE-CNI Green Bond Index[24]. International investors can use these indices to benchmark the performance of green bonds issued by Chinese issuers.

22. https://www.climatebonds.net/market/country-market-development/brazil/brazils-new-economy
23. http://www.giicoalition.org
24. http://cn.chinadaily.com.cn/2017-05/15/content_29355191.htm
25. Developed by CCDC, CECEP and Climate Bonds Initiative. CCDC has developed a series of green bond indices for Chinese green bonds. http://yield.chinabond.com.cn/cbweb-mn/ indices/single_index_query
26. Developed by CUFE International Green Finance Institute, Shenzhen Stock Exchange and Luxembourg Stock Exchange. https://www.bourse.lu/cufe-cni

It is also important that Chinese green bonds are included in global green bond indexes that are more likely to be traded, i.e. to see products developed around them. The first ever green bond ETF was listed by Lyxor on the London Stock Exchange and Euronext in Q1 2017 and is an example of how investment funds can channel international capital toward Chinese offshore green bonds, which are included in the index tracked by the fund (e.g. issuances by Agricultural Bank of China and by Bank of China).

4.2 Policy, Guidance and Incentives

Developing a certification scheme based on harmonised green definitions and green bond standards

Harmonising and gaining convergence of green standards and definitions in China with those in the international market would assist Chinese issuers in complying to common practice in the global green bond market satisfying the requirements of international investors. This will also potentially reduce the green bond issuance costs by avoiding duplication of verification and certification in different markets.

In March 2017, the PBoC and the EIB established a joint green finance initiative to harmonise the green definitions between Chinese and European markets.[25] In November 2017, the initiative released a white paper which compares different green definitions in EU markets and China, providing a basis for harmonisation of green definitions and standards.[26]

Table 2: Comparisons between China's high-level green definitions and the international Climate Bonds Standard

Sectors Aligned	Sectors aligned that can be further developed by China	Sectors not aligned
Industry and energy-intensive commercials **Energy distribution and management** **Green buildings** different technical criteria applied **Renewable energy** solar, bioenergy, wind, hydro, geothermal and marine **Waste, pollution control and sequestration** recycling, circular economy **Transport** new energy vehicles, biofuels, private transport, ICT **Adaptation** different examples	**Renewable energy** supply chain **ICT** broadband, teleconferencing and telecommuting software and services **Adaptation** energy, industry and waste, transport, food supply chain, and financial sevices **Transport** pubic bike, multi-modal logistic hubs, and public transport (the Cimate Bonds Standard require additional emission threshold) **Agriculture and Forestry** The Climate Bonds Standard requires mitigation or adaptation benefits from agriculture and forestry	**Fossil fuels** coal-powered generation, "clean" coad, and fuel production

27. http://www.eib.org/infocentre/press/releases/all/2017/2017-073-new-peoples-bank-of-china-and-eib-initiative-to-strengthen-green-finance.htm
28. http://www.eib.org/infocentre/press/releases/all/2017/2017-311-joint-white-paper-by-china-green-finance-committee-and-eib-set-to-strengthen-international-green-bond-market

Based on harmonised green bond definitions and standards, China can establish a green bond certification scheme following the policy proposed by the Construction and Development Planning of the Financial Industry Standardization released in early June 2017, which aims to establish and implement standards for the financial sector, including green finance by 2020. The certification scheme can provide assurance on green credentials of green bonds, reduce greenwashing risks and thus enhance investors' confidence.

Appendix 3 provides information on how to harmonise green bond requirements and guidelines in China and those in the international market.

Using international Climate Bonds Standard and Certification Scheme

International investors could also use the Climate Bonds Standard and Certification Scheme as a tool to identify green bonds that meet both domestic and international green definitions. This can reduce the need of due diligence for investors and thus lower the transaction costs required to gain confidence.

The Climate Bonds Standard and Certification Scheme is the only Certification scheme that aims to provide the green bond market with the trust and assurance that it needs to achieve scale.

It convenes scientists, investors and other specialists in expert committees, to develop clear, science-based criteria on what is green in order to deliver a low carbon and climate resilient economy. The associated Certification scheme provides assurance on environmental credentials of green bonds by offering Certification to bonds aligned with requirements from the Standard.

China Three Gorges (CTG) and ICBC have recently issued Certified green bonds under the Climate Bonds Standard. CTG's issuance in June has attracted a wide base of investor support with buyers from Germany, France, Switzerland, UK, Italy, Norway, Netherlands, Portugal, Spain, UAE, Singapore, South Korea, Japan and Malaysia. Due to the fully state-owned background of CTG, the green bond was rated A1/A+ by Moody's and Fitch Ratings, with coupon rate of 1.3%.

The ICBC's green bond was issued in three tranches of EUR1.1bn, USD450m and USD400m with 3 and 5-year tenors. It marks the biggest single tranche in EUR-denominated green bonds by a Chinese issuer. The bond attracted a diversity of investors including ESG based investors, sovereign funds, insurance companies and corporates.

In November 2017, both China Development Bank and Bank of China issued Certified green bonds. China Development Bank's green bond included two tranches: USD500m with a 5-year tenor and EUR1bn with a 4-year tenor. The bond has attracted over 200 institutional investors, with 59% from Asia and 41% from Europe, Middle East and Africa. The certified green bond from Bank of China consists of a 5-year USD 500m floating-rate tranche, a 3-year EUR 700m floating-rate tranche and a 3-year CNY 1bn fixed rate tranche. This bond is 2.6 times oversubscribed, where 70% of the investors are from Europe.

Simplifying approval process for green bond issuers

If green bond issuers can go through the approval process quickly and efficiently they will have more flexibility to choose the right time to issue green bonds overseas and to get the maximum potential pricing benefits.

In the domestic market, regulators have already established a fast track approval process for green bond issuance. For instance, in 2016, it took only three working days for Beijing Municipal Commission of Development & Reform (NDRC branch in Beijing) to assess and approve the issuance of BAIC green bond - the first green bond in Beijing. Regulators in China have simplified the approval process for green bond issuance to make it more efficient. In the green bond guidelines published in March 2017, CSRC has promised they will continue improving the approval process for green bond issuance. The same policy could be applied to green bond issuance overseas.

Providing guidance on reporting and disclosure

To make investment decisions, it is important overseas investors have access to accurate and timely information in Chinese green bond market. Regulators including PBoC, NDRC and CSRC can provide further guidance on reporting and disclosure for green bond issuers and standardising the reporting. Standardised reporting would enable investors to evaluate the green bonds more easily, and facilitate comparison between different green bonds. It would also help issuers know what to include in reporting, and therefore reduce their transaction costs.

Regulators could standardise reporting by detailing in their guidelines what types of information should be disclosed and the level of details required. For both pre- and post-issuance phases, this may include but is not limited to: information on management of proceeds, underlying assets and projects, estimated/actual environmental impacts when appropriate[27], and verification report from external review. Reporting templates can also be provided in reference to international principles and standards such as the Green Bond Principles and Climate Bonds Standard.

It is encouraged that green bond issuers disclose their information on a specific platform, making it easier for international investors to access information.

Providing clearer guidance on market entering schemes

To date, there are three schemes for international investors to choose from to enter China's bond market: QFII/RQFII, Direct Access to CIBM and Bond Connect Programme. The process and requirements of investment under each scheme are likely to be different and might be complicated in some cases, which may confuse international investors. To reduce investors' confusion and make them more comfortable, it is suggested that policy guidance on green bond investments be provided to international investors that optimise these three markets.

The guidance can map out details of qualifications that investors need to have, the approval process, the requirements on capital inflow/outflows under each scheme, policy support and fast track for green bond investors (if any), and rules and regulations in the green bond market that issuers, verifiers and investors, etc. need to follow.

Simpler procedure for application to access CIBM directly and clearer guidance/procedures on Bond Connect will further encourage oversea participants. Consideration should be given to publicise this initiative further.

29. https://www.climatebonds.net/resources/reports/roadmap-chinas-green-bond-market

Providing clear policy signals and guidance to manage investor perception on capital controls

Giving a clear policy signal on capital flow controls, and putting detailed policy guidance on capital inflows/outflows in place, can reduce investors' perception that they may not be able to exit the market if they need to due to policy actions on capital flow controls. This is essential for both the vanilla bond and green bond markets as it is seen as one of the most important factors for foreign investors both domestically and in the offshore markets.

4.3 Market Infrastructure

Developing RMB hedging instruments

China's domestic market infrastructure is expected to keep improving and connected with international market, to support mitigating counterparty credit risk. This could facilitate international investor's access to the market liquidity by setting up bilateral trading lines for all the market participants they would like to trade with. The foreign exchange derivatives market and more diversified financial products can be further developed. With the growth of overseas participation in domestic bond and equity markets there may be a point in the future whereby the onshore CNY and offshore CNH merge. This would boost liquidity and reduce the cost of hedging – particularly in the cross-currency swap market – given the limited liquidity in the offshore market.

Improving domestic credit rating practice and transparency in China

Improved transparency and understanding of the methodologies utilised by domestic ratings agencies regarding how they appraise companies, along with the criteria for the ratings applied, would allow greater international investor confidence for investments made in domestic green bonds. Moreover, specific information on how government support for the underlying issuer affects their rating assessment would be of strong value. International credit rating agencies such as Moody's and S&P can share their experience and provide support, given that they already have shareholdings of some of the biggest domestic credit agencies. This process will also help international credit rating agencies obtain a better understanding of the credit rating system and credit risks in China.

Opening the market to international credit rating agencies

Some international investors prefer to use international credit ratings as it is not easy to make international investors comfortable with domestic credit ratings in the short term. All three rating agencies already rate offshore foreign-currency bonds issued by Chinese groups[28], and both Fitch and Moody's have joint ventures with Chinese credit agencies, but they have little influence over domestic rating practices. So, in parallel to the improvement of domestic credit ratings practice, China could also open the market to international credit rating agencies.

In May 2017, the Government announced that they will open the market for international credit rating agencies to provide services in China[29], though more details and guidance on rules of applying for a rating licence are needed.

30. https://www.ft.com/content/9361f76c-3c5e-11e7-821a-6027b8a20f23?mhq5j=e3
31. http://www.thepaper.cn/newsDetail_forward_1684191

Box 2 - Default risks in China

In China, the first case of bond default appeared in 2014 – before that no bond had ever defaulted. Bond defaults rose to 79 last year from 23 in 2015. Though still rare compared to international standards, China's high corporate debt level suggests that defaults are due to rise further. For international investors, this highlights the potential default risk for the green bonds and the reliance on Government support for the issuer in a default situation.

The reason for the absence of bond defaults prior to 2014 is that the Government would have been subject to criticism if it didn't step in when a bond was likely to default. However, it is China's intention to differentiate default risks. From late 2015, bond defaults in China have started to become more normalised. China's bond market has a relatively short history and is still under development. Unlike Europe or the US where the bond market is quite mature, China is in the process of developing its credit rating system, and building a yield curve to differentiate default risks. Moreover, China is moving to a more market-driven bond market, with signs of decreasing government backing for corporate bonds.

Even so, defaults in the onshore market tend to be concentrated in sectors where there is overcapacity, such as steel, coal, shipping, cement, renewables or non-core subsidiaries. Letting such firms close can be construed as a sign that the economy is on its way to a more balanced and sustainable growth trajectory. "Whilst there has been a number of defaults over the past two years in both the corporate and state-owned enterprise (SOE) sectors, the level of defaults isn't alarming and should be perceived as a necessary step along the liberalisation process. It's a positive step that China is allowing defaults as it reflects a desire to allocate capital efficiently."[30]

32. FTSE Russell China Bonds Research Report, April 2017. http://www.ftserussell.com/sites/default/files/china-bond-report_final_020817.pdf

5. Conclusion

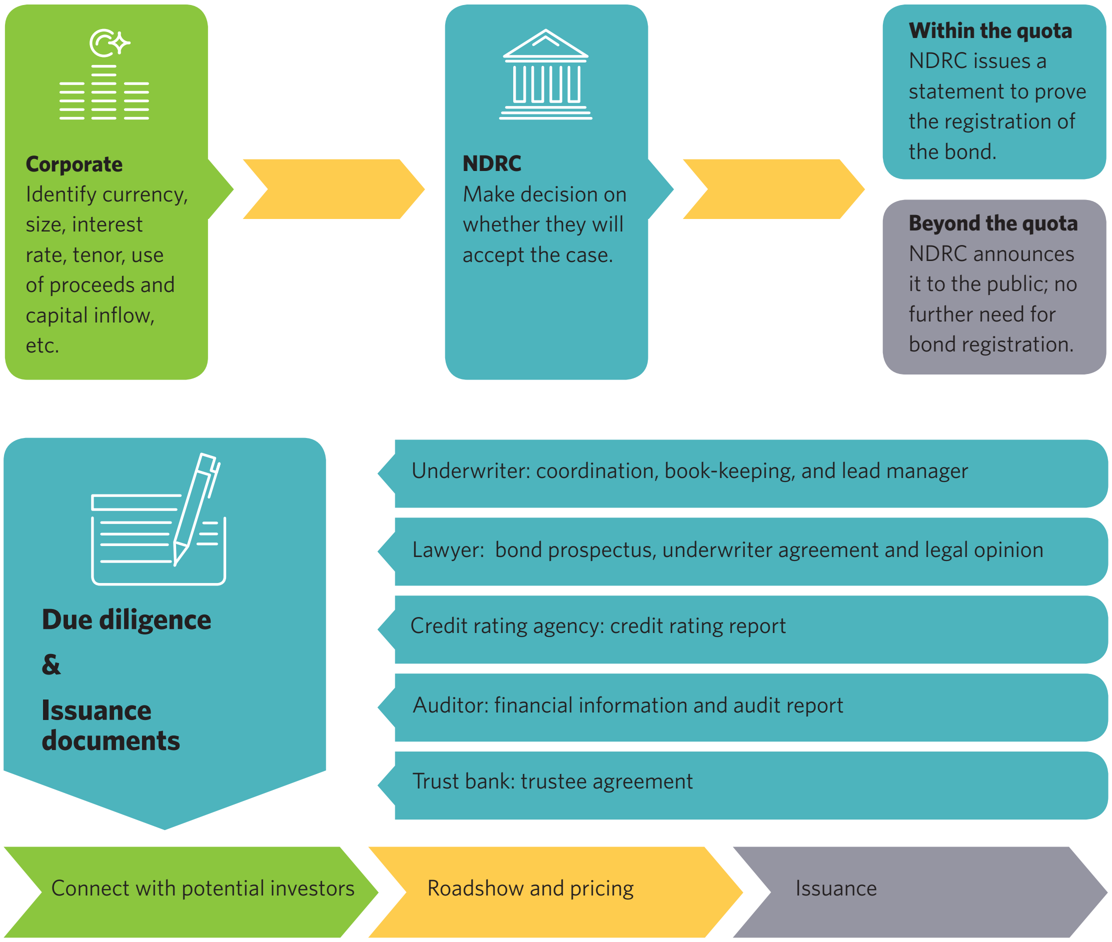
China has provided strong policy signals around its intent to develop a green bond market and to achieve a quick transition towards a green economy. International investors with relatively low interest rate can be an important source of capital to finance China's green transition.

However, challenges remain for Chinese issuers wanting to access international markets, such as the approval process of overseas bond issuance, capital flow controls, and investor knowledge of Chinese green bonds. Likewise, there are barriers for international investors seeking exposure to China's onshore market, such as transparency issues of domestic credit ratings and barriers to entering China's bond market. Differences between international and Chinese green definitions create further challenges. Market education is also required to build Chinese issuers' capacity to issue green bonds overseas.

To address these issues, several recommendations have been put forward in this paper. It is recognised that Chinese issuers need more guidance on how to issue green bonds overseas: this could be achieved through market education activities, demonstration issuance and developing specific guidance documents. There is also a need for international investors to have a better understanding of the Chinese green bond market. More communications between international investors and Chinese issuers are encouraged through investor forums.

In order to further facilitate the inter-country capital flows to China's green bond market, China will need to take a further step to open its bond market to international investors and international credit rating agencies. If international investors can be less subject to capital flow controls, have access to more hedging options, as well as acquire a better understanding of the credit rating system in China, they will be more confident in investing in Chinese green bonds.

Appendix 1 Process of bond issuance in overseas markets



Source: CCX (2017). 中国地方政府融资平台海外融资之路.

Appendix 2 Market Opening Measures for China Interbank Bond Market (CIBM)

China has the third largest bond market with the majority of bonds being issued and traded in the CIBM. The Chinese authorities have introduced a range of planned and structured market opening measures to facilitate greater overseas involvement to match the growing demand for RMB assets and support investor diversification objectives. Moreover, the internationalisation of the RMB and inclusion into the SDR has increased and may further increase demand for domestic market opportunities from long term investors.

Since 2010, the Chinese government has been making efforts to open its domestic bond market: more types of investors and products are allowed to participate in the market, the approval process has been simplified, and investment quotas have been removed or alleviated. From initial access via approved QFII/RQFII schemes the PBoC has further facilitated international investor participation through the introduction of 'Direct Access to CIBM' in 2016[31] and the very recently announced 'Bond Connect Programme' launched in Hong Kong.[32] Each of these initiatives demonstrates the strong commitment and support given by Chinese authorities to overseas investors to enhance confidence in participating in the domestic bond market.

Under the Bond Connect Programme, international investors can use their account set up with trustees in Hong Kong to invest in bonds in the domestic interbank bond market, where the trustee in Hong Kong would establish a corresponding account with a domestic trustee in mainland China. Through this programme, international investors who would like to invest in the Chinese domestic bond market can use their existing market infrastructure in Hong Kong, which is closer to the international market. This will ease their burden of learning and following specific rules and procedures in China's interbank bond market, and remove certain costs.

The Bond Connect Programme also alleviates the requirements on qualification of investors, which means more medium and small overseas investors are able to enter the domestic market. There is no quota limitation on how much they can invest either. Through the Programme, more international investors can directly participate in the primary market as well as the secondary market, which helps improving the liquidity of China's green bond market.

33. http://www.pbc.gov.cn/tiaofasi/144941/144959/3021203/index.html
34. https://www.ft.com/content/41a9eedc-5f97-11e7-91a7-502f7ee26895

Appendix 3 Harmonising green bond guidelines and standards in China and in the international market

Green definitions: aligning with international definitions

At a high level, the main difference at present is the inclusion of fossil fuel projects for green bonds in China. Within the sectors of energy efficiency and green buildings, where China's guidelines include technical criteria, future iterations can seek to leverage technical criteria that are being developed in the international green bond markets. An intermediate step would be for the PBoC to more clearly disclose the differences between domestic technical criteria and international standards in these sectors.

Domestic harmonisation in green definitions might also be required to scale up the green bond market in China. China's bond market is fragmented, and regulators covering different segments have published separate green bond guidelines. More communication and coordination between different regulatory authorities could help harmonise domestic green definitions, which would support the building of an integrated, national green bond market that can facilitate issuance and investment at scale with low transaction costs.

External reviews and assurance: implementing a third-party certification and approved verifier model to enable market scale

PBoC's current guidelines provide robust guidance to issuers for external reviews and assurance, which represent strong alignment with international approaches.

PBoC could endorse third-party certification as the preferred type of external review for green bonds in China. This would standardise the external review process and enable investors to evaluate the credentials of each green bond with lower transaction costs.

To implement third-party certification for green bonds, the Green Finance Committee could establish an approved verifier model for implementing third-party certification of green bonds against a standard. The Green Finance Committee could be the approver of verifiers, or they could delegate this responsibility to an organisation with existing expertise in the area. This gatekeeping role would involve selecting verifiers based on clear selection criteria.

A range of different organisations could be approved as verifiers, including domestic organisations, international organisations with existing expertise in offering green bond reviews and joint ventures between domestic and international organisations.

PBoC could publish guidelines to set out what verifiers should do during the certification process. This would ensure a level of consistent quality is maintained, as well as reduce transaction costs.

Source: Climate Bonds Initiative (2016). Roadmap for China: Green Bond Guidelines for the Next Stage of Market Growth. https://www.climatebonds.net/resources/reports/roadmap-chinas-green-bond-market

China Chengxin Credit Management Co., Ltd. (CCX) is the pioneer in the domestic credit rating industry in China. The Climate Bonds Initiative is an international organization working to mobilize debt capital markets for environmental solutions.