ROADMAP FOR CHINA: **GREEN BOND GUIDELINES FOR THE NEXT STAGE OF MARKET GROWTH**

Climate Bonds INITIATIVE

IISD International Institute for Sustainable Development

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Contents

This is the first in a series of four 2016 discussion papers issued by the Climate Bonds Initiative and the International Institute for Sustainable Development (IISD) on prospects for the Chinese green bond market.

The four papers are:

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- Roadmap for China's Green Bond Market-Scaling up Issuance (Paper 2)
- Roadmap for China: Using green securitisation, tax incentives and credit enhancements to scale green bonds (Paper 3)
- Extending the Joint Leadership of China and the UK on Green Finance (Paper 4)

This 2016 series of discussion papers follow the March 2014 *How to Grow Green Bonds in China* report[1] and the *Growing a green bonds market in China: Key recommendations for policymakers in the context of China's changing financial landscape* report of March 2015.

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Executive Summary

China's central bank, the People's Bank of China (PBoC), and its macroeconomic management agency, the National Development and Reform Commission (NDRC) published green bond guidelines in December 2015 and January 2016 respectively. PBoC's guidelines are the main focus of this paper, as these are more comprehensive than NDRC's guidelines.

Framework: Aiming to harmonise Chinese and international green bond guidelines

This issues paper sets out a roadmap for the next steps of the green bond guidelines in the Chinese domestic green bond market with the aim of harmonising these guidelines with international practice.

To develop a roadmap for China's guidelines, the paper used the following framework:

Step 1: Current green bond guidelines released by China: what do they say?

Step 2: What is the international practice in the area? How does this compare to China's guidelines?

Step 3: Roadmap to achieving harmonisation between China's green bond guidelines and international practice.

This framework has been applied to each segment of China's current green bond guidelines: green definitions; management of proceeds of green bonds; external reviews and assurance; and reporting and disclosure requirements.

Findings: Current state of harmonisation is good

The table overleaf outlines the current state of harmonisation and clearly shows that there is strong alignment in most areas.

In particular, full alignment already exists for Management of Proceeds and Reporting and Disclosure. External Reviews and Assurance guidelines are closely aligned, with China taking early steps to strongly encourage the use of independent verification.

Further efforts to harmonise the green bond guidelines should focus primarily on Green Definitions, with particular emphasis on development of Sector-Specific Criteria and the Basis for Criteria.

Table 1: Summary of alignment between China and international standards		
	Current level of alignment	**Roadmap to achieve harmonisation for Chinese and international green bonds**
Green Labelling		
Management of Proceeds	Fully aligned	Continue current approach
Reporting and Disclosure	Fully aligned	Continue current approach
External Reviews and Assurance	Closely aligned	Further encourage third party assurance as standards and criteria are adopted and Chinese verifier capabilities improve
Green Definitions:		
Categories	Mostly aligned	Excellent alignment already. A small number of areas to explore further, such as low-carbon equipment supply chains and projects involving fossil fuels.
Sector-Specific Criteria	Some alignment	Further work on investigating overlaps and differences between Chinese definitions and international criteria. Important work needed to align with international efforts as China builds-out (or adopts) its library of sector-specific criteria.
Basis for Criteria	Some alignment	Use a scientific framework to ensure that the project-level criteria for green bonds are in line with China's national environmental targets, including emission reduction targets.

1. Current State of Green Bond Markets in China

China's challenge: Meeting environmental targets while maintaining growth

The rapid economic growth achieved in the last decades has been reliant on coal-based energy consumption, road-based transportation and a carbon-intensive industrial structure. This has led to China now facing a vast number of environmental issues, including air, water, soil pollution and climate change. The World Bank estimates that the cost of environmental damages, which is still rising, and will reach 3% to 6% of China's GDP.[2] China's government is recognising that there is a need for China to change its high-pollution and energy-intensive growth model and transition towards a green and sustainable economy.

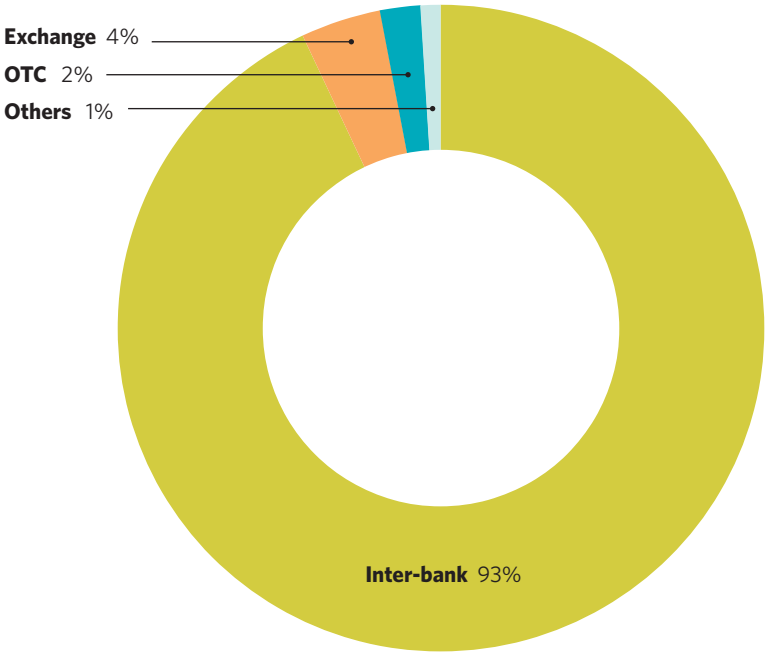
China's green transition requires massive investments: The majority from the private sector

An annual investment of at least RMB 2 trillion-4 trillion (USD 320billion-640 billion) will be required to address environmental issues and climate change.[3] The PBoC has made a clear statement that public investment alone is not sufficient to meet this investment requirement: public funds would only contribute 10% to 15% of the required investment, with the private sector expected to be by far the largest source of capital for the green transition, contributing 85% to 90%.[4]

International investors could provide an important capital source, facilitated by the recent improved opening of the interbank market to foreign institutional investors

Institutional investors outside of China are increasingly looking for investments with positive environmental impacts. These international investors can be an important source of capital to finance China's green transition, especially given the improved access to China's interbank market granted to foreign investors in February 2016.[5] The recent regulatory changes are a significant step in the gradual opening of China's interbank market to international investors, a process that has been on-going since 2010.[6] The interbank market, regulated by the PBoC, accounts for the vast majority of China's debt market (see Figure 1).

Figure 1: The interbank market is the dominant part of China's bond markets (share of bonds outstanding at the end of 2015)[9]



Previously, a quota system has limited foreign investment in the interbank market. The latest announcement removed all quotas for qualifying foreign investors. Qualifying foreign investors include most real money institutional investors, including insurance companies, pension funds, most commercial banks, fund/asset managers, endowment funds and charities.[7] Foreign hedge funds and retail investors are not eligible to invest. The process for foreign investors to register with the Chinese authorities to be formally approved for investments has also been simplified.[8]

Green bonds are proving successful in tapping into private sector capital

Labelled green bonds are increasingly considered an ideal vehicle for tapping into private sector capital. The proceeds of these bonds are used for green assets and projects and are labelled accordingly (mostly climate change mitigation and adaptation projects). Proceeds can be allocated to new projects or for refinancing existing green projects, or a mix of both. Green bond investors equally accept both.

Globally, the green bond market has grown rapidly, from USD 11 billion (RMB 72.4 billion) of issuance in 2013, to USD 36.8 billion (RMB 242 billion) in 2014 and USD 41.8 billion (RMB 275 billion) in 2015. The growth in green bonds is expected to continue. SEB estimates that global green bond issuance will grow to USD 80 billion-USD 100 billion (RMB 362 billion-RMB 526 billion) in 2016.[10] China is seen as a leading source of green bond market growth going forward.[11]

Green bonds can tap into international capital at scale. Demand from green bond investors in the international market is outstripping supply. International institutional investors, including pension funds and insurance companies, can now more easily access green bonds issued in the Chinese domestic market after the opening up of China's interbank market. Investment can also occur at scale, as quotas limiting the amount of foreign investments have been removed.

There is strong policy support to grow the green bond market in China

In May 2015, policy incentives for developing the green bond market was one of the recommendations made by the Green Finance Task Force, led by the People's Bank of China (PBoC), for establishing a green financial system in China. Following this landmark report, PBoC established a Green Finance Committee (GFC)[12] to undertake research on how to practically implement the PBoC's vision for a green financial system in China. China's State Council also encourages the establishment of green financial system in their Ecological Civilisation Master Plan, and explicitly points out the need to develop green bonds in China.

Official guidelines for green bonds have been published

In December 2015, PBoC published the first official Chinese green bond guidelines. The guidelines set out the official requirements for what projects qualify as green, management of proceeds and reporting. PBoC is the regulator overseeing the interbank bond market, which accounts for 93% of outstanding bonds in China, and also directly regulates issuance from financial institutions.[13] See Appendix 1 for an overview of the regulatory structure in China's bond markets.

In January 2016, China's macroeconomic management agency, the National Development & Reform Commission (NDRC) published a separate set of green bond guidelines. NDRC is the regulator responsible for corporate bond issuance, which accounts for a smaller share of China's bond market. NDRC's guidelines are less comprehensive than PBoC's guidelines: they do not offer criteria for management of proceeds or reporting.

PBoC's guidelines are therefore a resource also for non-financial corporates to refer to, as they offer more extensive guidance on the whole green bond issuance process. NDRC's guidelines are limited to a list of qualifying green projects that should be supported by green corporate bonds, and proposals for policy incentives for green bonds.

Table 2: Summary of green bonds issued by Chinese entities as at March 2016

Domestic Market	Dim Sum market (Hong Kong)	Overseas Market
Industrial Bank of China, RMB 2.6 billion (USD 0.4 billion) green ABS Industrial Bank of China, RMB 10 billion (USD 1.5 billion) Shanghai Pudong Development Bank, RMB 35 billion (USD 5.3 billion) Bank of Qingdao, RMB 4 billion (USD 0.6 billion) Concord New Energy RMB 200 million (USD 30.9 million)	Xinjiang Goldwind Science and Technology USD 0.3 billion	Agricultural Bank of China USD 1 billion with one RMB-dominated tranche of RMB 0.6 billion (USD 91.2 million)
Total issuance RMB 51.8 billion (USD 7.83 billion)	**Total issuance** RMB 2 billion (USD 0.3 billion)	**Total issuance** RMB 6.6 billion (USD 1.0 billion)

In March 2016, the Shanghai Stock Exchange (SSE) published its own set of green bond guidelines for corporate issuers. The SSE guidance refers to the PBoC's catalogue for what projects qualify as green, and provides similar guidance to the PBoCs on management of proceeds, reporting and disclosure, and use of third party audits or certification.

China plans to issue RMB 300 billion of green bonds annually by 2020

The official guidelines for green bonds now provide the foundations for rapid green bond growth in China. The Research Centre for Climate and Energy Finance (RCCEF)[14] estimates that by 2020, RMB 300 billion (USD 45.6 billion) of green bonds will be issued annually in China.[15]

Chinese issuers have already come to market with several green bonds (see Table 1). Xinjiang Goldwind Science and Technology, a wind energy company, issued China's first corporate green bond in July 2015. Agricultural Bank of China issued China's first RMB-dominated green bond in the London-markets in October 2015. In January 2016, based on PBoC's green bond guidelines, the Industrial Bank of China (CIB) and Shanghai Pudong Development Bank (SPDB) issued the first officially recognised green bonds in the domestic market. The two banks have obtained approval from PBoC to each issue up to RMB 50 billion (USD 7.6 billion) of green bonds. The Bank of Qingdao is the first city commercial bank to issue green bonds.

More is planned in the near future. Bank of Zhengzhou is waiting for approval to issue RMB 5 billion (USD 770 million) of green bonds. Bank of Communications has received approval for a green bond issuance quota of RMB 70 billion (USD 10.8 billion), the largest green bond issuance quota approved per March 2016.[16]

There is also potential for foreign entities to issue RMB-denominated green bonds in the Chinese domestic market (Green Panda bonds). There is demand from foreign entities to enter the market and issue Panda bonds, and guidelines for green Panda bonds are being developed.[17]

Large existing portfolios of green loans in China's major banks indicate immediate potential for green bonds in China.

Under the China Banking Regulatory Commission (CBRC)'s green definition for green credit, which is aligned with PBoC's catalogue for qualifying green bond projects, there was RMB 5.72 trillion (USD 920 billion) of outstanding green loans in the largest 21 Chinese banks in 2014.

This gives an indication of the immense immediate potential for green bonds to be issued in China, as refinancing of green loans is the main role of green bonds. According to the Green Finance Committee, around 30% of all bonds to be issued by corporates and financial institutions in China will be eligible as green bonds.[18]

Ensuring the environmental credentials of green bonds by developing definitions, verification and reporting procedures

For green bonds to play a role in achieving China's overarching goal of meeting environmental goals, including climate targets, it is essential that rapid overall market growth in green bond issuance must be balanced with some level of environmental ambition for individual issuances.

Investors want to know that the green bonds they invest in will have genuine environmental benefits. Similarly, governments supporting the growth of green bonds need to be assured that the green bonds will finance projects and assets which have a significant environmental impact in line with policy imperatives.

To ensure the green bond market is a trusted and robust market, processes and definitions need to be established to ensure that funds are allocated to qualifying projects and assets with genuine environmental benefits. Moreover, this must be verifiable by trusted entities.

To enable scale, this must be possible to do with low transaction costs. Throughout the bond term, regular reporting from the issuers also plays an important role in providing progress updates to investors and regulators.

2. Green Definitions

Developing definitions for what is green sets the foundation for ensuring green bonds finance only qualifying green projects and assets. This includes first developing high-level **categories of green projects and assets**, for example renewable energy, low-carbon buildings and water projects (see section 2.1).

Then, within some of these areas, it includes developing further technical criteria for what is green; for example, defining the specific level of emissions intensity a building must have to be considered a low-carbon building (see section 2.2).

Finally, the underlying basis for what is green must be clear. Firmly establishing the scientific link between green bond project criteria and national environmental targets creates a longer-term approach to driving the necessary transition within the Chinese economy (see section 2.3).

Table 3: 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" coal, and fuel production

2.1 Categories of qualifying green projects and assets

Current practice in China: PBoC endorses specific categories for what is green

The official green definitions for projects qualifying for green bond issuance in China are broad and comprehensive. PBoC requires issuers to refer to the China Green Bond Endorsed Project Catalogue (the Catalogue), an official list of the types of green projects eligible for financing via green bonds. The Green Finance Committee, which sits under the China Society for Finance & Banking, developed the Catalogue.

The Catalogue, endorsed by PBoC, is the most comprehensive guideline for what is green in the Chinese green bond market. It covers climate change mitigation and adaptation projects, and broader environmental projects, such as projects addressing air pollution, to be in line with China's environmental policy priorities. The Catalogue sets up six categories with 31 sub-categories of projects that are eligible for financing via green bonds.

NDRC's guidelines also define a list of projects eligible for green bond issuance, which are largely in line with the Catalogue of projects endorsed by PBoC.

The exception is with nuclear energy, which is included by NDRC but not endorsed by PBoC.[19] Appendix 2 provides an overview of green definitions endorsed by PBoC and NDRC.

The main difference between the two sets of green definitions is that the Catalogue endorsed by PBoC provides an exclusive list of what projects qualify for regulatory green bond approval, while NDRC's guidelines aim to highlight specific project types they are particularly encouraging to be financed by green corporate bonds.

For example, NDRC lists the desalination of seawater and utilisation of reclaimed water as eligible within the "water saving and utilisation" category, while PBoC contains a wider range of project types in the "water saving and utilisation" areas, without guiding on which specific project types should be prioritised within this investment area.

China's categories of green projects are mostly aligned with international practice

China's categories of qualifying green projects as set out in the Catalogue endorsed by the PBoC are mostly aligned with the categories of green projects covered by international guidelines and standards, such as the Green Bond Principles and the Climate Bonds Taxonomy and Standards. China's categories of what is green also cover the main themes that green bond issuers in the international market have allocated proceeds to in practice.

In some categories of projects, China's definitions are fully aligned with international practice—the projects in these categories would automatically qualify with international guidelines and standards—while in other categories, further evidence of environmental credentials of specific projects within the category will be required to ensure the projects meet international expectations.

However, there are some categories of qualifying green projects included in the Chinese guidelines that differ from practices in the international green bond markets, in particular fossil fuel projects, public transport projects that use fossil fuels, and supply chain investments (see Appendix 3 for more details).

Roadmap for next stage of China's green definitions: Harmonisation with international green definitions to attract low-cost international capital

Harmonisation can make it easier for international investors to invest in green bonds in China.

Aligning domestic categories of what is green with categories of qualifying green projects used in the international market would facilitate international investors to more easily invest in Chinese green bonds, both in the domestic green bonds market and bonds issued in overseas markets. The potential for accessing international capital for green bonds in China's domestic market has dramatically increased after the requirements for foreign institutional investors to invest were eased in February 2016.[20]

If green definitions are harmonised between China and the international market, Chinese green bonds would adhere to guidelines and standards international investors are already familiar with from the international markets. This would reduce their transaction costs in investing, and could therefore facilitate international capital to flow at greater scale into China's domestic green bond market.

Attracting international investment is crucial for China to meet the massive investment needs for the green transition with low-cost capital. Lowering the cost of capital increases the economic viability of green projects with high upfront capital needs, as the amount required to be spent on serving interest rate payments decreases. For green projects with relatively high upfront capital needs, the interest payments can account for a significant share of the total project costs. Attracting international investment at scale also diversifies the investor base and increases market liquidity.

Fossil fuel projects are the main area of divergence between Chinese and international definitions.

A key topic to consider for future harmonisation is the current inclusion of fossil fuel-based projects in the PBoC-endorsed definitions. A significant share of international green bond investors are expected to be reluctant to invest in green bonds with part of the proceeds allocated to fossil fuel projects, as they do not consider it to comply with their green mandates.

While fossil fuel-based projects remain included in the official guidelines, international investors may face increased transaction costs in investing in Chinese green bonds, if they will have to evaluate the green credentials of individual Chinese green bond issuances to ensure that no proceeds are allocated to fossil fuel projects. Implementing a certification model adapted to international investors' expectations for fossil-fuel free green bonds to the Chinese market may also address this issue (see section 4).

The harmonisation process would be a two-way exchange.

China can look to existing international guidelines, standards and practice for what is considered green in the green bond market, but also play a more active role in influencing how the international guidelines and standards evolve going forward. Increased collaboration could be achieved by the Green Finance Committee taking a more active role in engaging with international guidelines and standard schemes to encourage a two-way communication on how to harmonise green definitions as the market develops.

The Green Finance Committee could work to examine in closer detail the current minor differences between the green definitions used in the China Green Bond Endorsed Project Catalogue and those used in the international markets. The differences set out in Appendix 3 provide a starting point for this analysis. The Green Finance Committee could benefit from collaborating closely with organisations actively working on green definitions for green bonds in the international market. This would help more easily identify differences and how to manage them, and ensure a two-way exchange of ideas to enable harmonisation to occur. The Green Finance Committee can then seek to minimise the gap and harmonise with international practice in future revisions of the Catalogue.

Domestic harmonisation of green definitions between different bond market regulators in China.

In addition to international harmonisation, domestic harmonisation in green definitions would also be useful. China's bond markets are fragmented, and include multiple regulatory authorities (see Appendix 1) that cover different types of issuers. At the initial stages of the domestic green bond market, the different regulators have developed and endorsed different green definitions: PBoC has endorsed the green definitions developed by the Green Finance Committee, as has the Shanghai Stock Exchange, while NDRC provides its own green definitions.

Although largely in line with the definitions endorsed by PBoC, a common set of green definitions would be easier to navigate for potential issuers and investors. Additionally, the National Association of Financial Market Institutional Investors (NAFMII) and China Securities Regulatory Commission (CSRC) are also developing their own green bond guidelines, and it is possible that they will endorse or develop green definitions that differ from those endorsed by PBoC and NDRC.

Lack of domestic harmonisation around what qualifies as green for the different regulators could potentially become a challenge to scale up the market in China, as it increases the transaction costs for issuers, investors and policy-makers.

Common green definitions across regulators would facilitate greater capital flows to green bonds across the different segments of the bond markets in China, helping the green bonds market to achieve scale. Harmonisation across regulators could be facilitated by more communication and coordination between different authorities. Efforts for closer collaboration between the different regulators on green bonds would also create benefits for China's general bond market reform, where reducing the fragmentation of the capital markets is on the agenda.

2.2 Sector-specific criteria within selected categories of green projects

Current Practice in China: Sector-specific criteria based on national standards

Within the high-level categories of energy efficiency and green buildings, the current Catalogue endorsed by the PBoC sets out additional sector-specific criteria that projects must meet to qualify for green bond issuance:

- **Energy efficiency:** Projects must meet the reference value of energy consumption per unit of product as set in the national standard for industrial energy consumption[21] to be considered as green.
- **Green buildings:** Newly-built residential and public buildings must be rated no less than "two star" according to the national building standards Evaluation Standard for Green Building[22] to be considered eligible.

These sector-specific criteria contained in the Catalogue are based on China's current domestic policies.

International practice: Sector-specific criteria are emerging in a range of different sectors

In the international green bond market, sector-specific criteria that issuers can voluntarily adhere to are emerging in several sectors. There are no regulatory requirements to adhere to certain sector-specific criteria. The Green Bond Principles do not set out sector-specific criteria directly, but instead refer issuers to existing sector-specific technical standards, such as green building standards or the Climate Bonds Standard.

Adherence to common sector-specific criteria developed by respected external organisations can be a way for green bond issuers to ensure investor confidence in the environmental credentials of the bond and reduce any risks that the green credentials of the bonds are not sufficiently robust. Whether an issuer chooses to comply with sector-specific criteria for their green bond to increase investor confidence in the bond is largely driven by the issuer's internal risk management procedures and branding considerations.

Table 4: International sector-specific criteria are available for an increasing number of sectors under the Climate Bonds Standard

Available now	Available soon
Solar	Bioenergy
Wind	Water
Low Carbon Transport	Food, Agriculture & Forestry
Low Carbon Buildings	Hydro Power
Geothermal	Marine & Coastal
	Information & Communications Technology (ICT)
	Industrial Energy Efficiency
	Waste Management & Circular Economy

Roadmap for next stage of China's green definitions: Leverage international standards for sector-specific technical criteria

The sector-specific criteria for energy efficiency and green buildings in the Catalogue endorsed by PBoC are at present not easily comparable with international criteria in these investment areas. Identifying how the sector-specific criteria currently endorsed for green bond projects in China compare with international sector-specific criteria in the green bond market is a first step to explore how to harmonise criteria.

Different sector-specific criteria in China and the international green bond markets can be a barrier to attracting international capital, as it increases international investors' transaction costs in evaluating the environmental credentials of the bond, since they have to familiarise themselves with China-specific criteria, and evaluate whether these are in line with the criteria they are used to from the international market.

Convening expert working groups is one approach to harmonising sector-specific criteria. To harmonise sector-specific criteria between China and the international markets, China's Green Finance Committee can convene—or ask another entity to convene on their behalf—sector-specific working groups of experts to develop Chinese sector-specific technical criteria that are harmonised as much as possible with international practice.

The working groups of experts should consider any current sector-specific criteria used in the Chinese market, as well as sector-specific criteria that are being developed in the international green bond markets. The experts can then determine how best to harmonise, and in which sectors China can leverage international criteria directly to easily align domestic guidelines with international practice. For example, the Climate Bonds Standard and Certification scheme has developed a range of sector-specific criteria specifically for the green bond market (see Table 3). The process is intended to be dynamic, with sector-specific criteria updated at regular intervals to take into account technological progress and changes in environmental policy targets.

Box 1: Step-by-step guide to harmonising technical criteria for the green building sector between China and the international market that can be replicated in other sectors

Step 1: The Green Finance Committee, or another entity approved by the Green Finance Committee, establishes a Green Buildings Working Group
Members can include academics, other scientific experts and industry representatives. The working group will include a range of actors who collectively have extensive knowledge and skills in the green building sector, and the capability to analyse and compare different criteria for green buildings suitable for the financial sector.

For example, representatives could come from the Ministry of Construction (which developed China's national green building standards), building initiatives within the industry, and local research institutes. International experts who have been involved in developing international green building standards can also be included to provide international perspectives on standards development in the area.

Step 2: Identify the current sector-specific criteria to qualify for green bond issuance in China
The Catalogue states that newly built residential and public buildings must be rated no less than "two star" according to the national building standards Evaluation Standard for Green Building[23] to be considered eligible for green bond issuance. This green building standard covers a range of factors, and is not fully emissions focused, which means the score given does not provide a direct indication of emissions performance.

Step 3: Assess alignment with criteria used in the international green bond market
The current qualifying threshold for green bond eligibility of minimum "two star" under China's national green building standard is not easily comparable to international standards for green buildings, such as the Climate Bonds Standard for Low-Carbon Buildings.

A key difference is that the International Climate Bonds Standard focuses on building emissions and measures emission performance of buildings relative to an emission baseline. The emission baseline is established at the city level from actual operational data of buildings and represents the top 15% of city-level emissions performance. This is the minimum level of carbon emissions performance that must be demonstrated by portfolios of buildings to be eligible for green bond issuance under the Standard.[24]

Step 4: Assess whether sector-specific international criteria can be directly applied also to Chinese green bond issuance
Directly applying international sector-specific criteria to the Chinese market can save time and efforts in developing China-specific criteria. For example, for green buildings, China can easily adopt the international Climate Bonds Standard for low-carbon buildings to the Chinese context.

The only additional efforts required to do this is establishing baseline emission performance requirements for China using existing emission data of buildings. Once this is done, the international criteria for low-carbon buildings under the Climate Bonds Standard can immediately be used in China to define what buildings are eligible for green bond issuance.

Chinese city-level emissions performance baselines can be established using data for buildings that is available from emission exchanges in selected cities that are covered by the 7 pilot emission trading schemes in China, including Shenzhen, Shanghai, and Beijing.[25]

The alternative would be to develop new Chinese sector-specific criteria that are harmonised as much as possible with international practice. If Chinese-specific criteria are developed, any differences with international practice should be clearly disclosed to aid international investors in comparing China's criteria with international criteria.

Step 5: Update the sector-specific criteria at periodic intervals to consider progress in technologies, policy targets and availability of benchmark data
To ensure the green building criteria for green bond issuance are aligned with China's overall policy targets in the sector and for emissions intensity for the economy as a whole, the criteria for green buildings will be reviewed and adapted regularly.

For example, the Low Carbon Building sector-specific criteria under the Climate Bonds Standard are reviewed by its technical working group on an annual basis in order to address any issues arise after the release of those criteria.

A two-way collaboration would be most beneficial in achieving harmonisation between Chinese sector-specific criteria and international criteria.
The groups of experts convened in China could also contribute their findings to international guidelines and standard schemes to influence how these are developed in the next stage of the international green bond market.

Box 1 presents an example of how an expert committee convened by the Green Finance Committee, or another entity approved by the Green Finance Committee, can harmonise criteria in the green building space for a next iteration of the China Green Bond Endorsed Project Catalogue. The same steps can be repeated for other sectors to harmonise sector-specific criteria between China and the international markets.

While work to achieve improved harmonisation is underway, an intermediate step would be for the Green Finance Committee to more clearly disclose the differences between domestic standards and international standards in specific sectors.

2.3 Basis for what is green: The link between green bond project criteria and national environmental targets

Current practice in China: High-level green definitions based on industry policy

The investment areas covered by the PBoC-endorsed Catalogue of green projects are based on existing national policies for green industry and climate change mitigation and adaptation.[26] However, within many of the investment categories it is not clear whether sufficient criteria are in place to ensure the green projects are achieving the level of ambition set out in national targets in the area.

For example, it is clear that the green project category of clean energy included in the Catalogue is in line with China's official policies to reduce their carbon emissions. However, it is not clear whether the criteria set out for clean energy—such as the inclusion of "clean" coal—is sufficiently strict to ensure the clean energy projects funded under the green bond guidelines are in line with China's official emission reduction targets to reduce carbon intensity by 60%-65% relative to 2005 levelS by 2030.[27]

International practice: Aligning green bond standards with scientific framework in the climate space

In the international markets, progress is being made to make a clear link between project-level criteria for green bonds and international climate targets. Climate change mitigation and adaptation projects account for the majority of projects financed in the international green bond market.

The Climate Bond Standards and Certification scheme use a scientific framework to ensure green bond project-level criteria are aligned with the levels of emission reductions required to meet the international targets of limiting global warming to less than 2°C. The framework provides investment pathways that will achieve the less than 2°C target, which then allows sector-specific standards to be developed that are in line with the investments needed.

The scientific link between project-level criteria and high-level climate targets allow issuers adhering to the Climate Bonds Standard to assure investors that their green bonds provide a significantly ambitious contribution to a low-carbon climate-resilient economy.

Roadmap for next stage of China's green definitions: Providing scientific base for qualifying green projects

Future iterations of China's green bond project Catalogue could use a scientific framework to ensure that the project-level criteria for green bonds are in line with China's national environmental targets, including emission reduction targets.

A scientific framework is required to understand how the high-level policy targets translate to project level criteria.

A scientific framework would provide a clearer guide for the Green Finance Committee in deciding what project types should be included or excluded from the next iteration of the green bond Catalogue to ensure that the green bond guidelines are consistent with overall government targets for the transition to a green economy.

Scientifically based definitions would further enhance both policy-makers' and investors' confidence in the environmental credentials of the green bonds.

A clearer scientific link between China's national environmental targets and the green bond definitions would also allow the green bond definitions to be easily adjusted when national targets are altered in the future. This would help ensure that green bonds remain a viable tool for China to achieve its national targets.

3. Management of Proceeds

Robust management of proceeds that ensures that all funds from the green bond issuance are allocated to qualifying green projects plays an important role in building investor confidence.

Funds raised from green bond issuances can be allocated to new projects or be used to refinance existing green assets. The main role of bonds in the financial markets is generally to refinance existing loans, which implies refinancing should account for the largest share also of the green bond market (see Appendix 4).

Current practice in China: Requirements for tracking funds and investing unallocated proceeds

Tracking of proceeds

PBoC has set stringent rules for tracking the use of proceeds of green bonds: how much of the proceeds have been allocated to qualifying green projects or assets at any given time in the bond term, and how much remains unallocated.

Under PBoC's guidelines, tracking requirements provide that issuers either ring-fence or earmark the proceeds to qualifying green projects. Ring-fencing means issuers establish a special account for the green bond proceeds, which is only used to allocate proceeds to qualifying green projects. Earmarking does not require proceeds to be segregated in a special account, but instead only requires issuers to keep a nominal relationship between the amount of proceeds raised and funds allocated to green projects—and pending full allocation to qualifying projects, a nominal relationship with the unallocated amount of proceeds and qualifying instruments that ensures the funds are not temporarily invested in non-green projects.

Management of unallocated proceeds

Under PBoC's guidelines, issuers are required to invest temporarily unallocated proceeds in green bonds from other issuers (only non-financial corporates qualify) or money market instruments with good credit rating and liquidity. This is to ensure that proceeds are not temporarily invested in non-green projects that green bond investors would not accept.

In the very early stages of the market, issuers might have to invest in money market instruments only, as the pool of domestic green bonds from non-financial corporates to invest in is non-existent or limited.

PBoC requires that all green bond proceeds must be allocated to qualifying green projects or assets within one year of the green bond issuance within one year of the green bond issuance. This can be all refinancing of existing green assets, new projects or assets or a mix of the two.

NDRC's green bond guidelines do not yet cover any specific rules for management of proceeds.

International practice: Earmarking mostly used to track funds and investment of unallocated proceeds is disclosed

Tracking of proceeds

International practice is for corporate issuers, including commercial banks, and municipalities to use earmarking (keeping a nominal relationship between green bond funds and money allocated to qualifying green projects) rather than ring-fencing (segregating proceeds in a separate account only used for qualifying green projects). Earmarking is widely accepted by green bond investors as sufficiently robust to ensure funding is allocated to qualifying projects: the important thing is ensuring an amount equivalent to the proceeds raised are allocated to qualifying projects or assets.

A smaller number of international green bond issuers ring-fence the proceeds in a separate account, including development banks such as the European Investment Bank and project bond issuers. For green project bonds, ring-fencing the proceeds in a separate account comes with the nature of project bonds—the funds raised from the bond issuance are allocated to a specific project and the project backs the bond, rather than the issuers' balance sheet. The ring-fencing of proceeds used by green project bonds is therefore not specific to green, but a general feature of project bonds.

Management of unallocated proceeds

PBoC's guidelines take a step further than many issuers in the international markets have done in practice. The international market focuses on disclosure, rather than requirements. For example, the Green Bond Principles recommend issuers disclose to investors what instruments they will use to invest the balance of unallocated proceeds. Similarly, Moody's proposed Green Bonds Assessment encourages issuers to set up clear eligibility criteria for investment of unallocated proceeds. However, neither provides clear guidance on what specific instruments are deemed most suitable to reduce the risk of proceeds being temporarily invested in non-green assets.

The PBoC is closely aligned with the Climate Bonds Standard on management of unallocated proceeds. The standard sets clear rules for investment of unallocated proceeds to ensure non-contamination of the proceeds. Under the standard, the unallocated proceeds can be held as either temporary investment instruments that are cash, or cash equivalent instruments, within a Treasury function; or as temporary investment instruments that do not include greenhouse gas intensive projects.

The PBoC is closely aligned with the Climate Bonds Standard on management of unallocated proceeds. The standard sets clear rules for investment of unallocated proceeds to ensure non-contamination of the proceeds.

Roadmap for next stage of management of proceeds: Earmarking provides investors with sufficient assurance

More guidance to help issuers choose between different tracking systems and then implement them

PBoC's current guidelines provide robust guidance to issuers for management of proceeds by requiring ring-fencing and earmarking of the green bond funds. To further improve the guidance, PBoC could consider providing more details on the differences between earmarking and ring-

4. External Reviews and Assurance

fencing. Guidance from PBoC would give issuers a stronger basis for deciding which tracking system to use.

Further guidance on tracking systems for green bonds could include highlighting that, in the international market, earmarking is considered to provide investors with sufficient assurance that funds are allocated to green projects. Earmarking recognises the fungible nature of money within the issuer entity, and is particularly suited for corporates, including financial and non-financial corporates, and municipalities.

Future guidelines can also provide more information on how to implement earmarking in practice by explaining that it only requires a nominal relationship to be kept between the total sum of green bond funds raised, and the sum of proceeds allocated to qualifying green bond projects. Pending full allocation of proceeds to qualifying projects, earmarking requires the issuer to have a sum equivalent to the unallocated proceeds invested in qualifying cash-equivalent instruments or green bonds from other non-financial issuers; again, it's a nominal relationship that is required.

Management of unallocated proceeds

PBOC's current requirements for investment of unallocated proceeds provide sufficiently robust rules to ensure that unallocated proceeds are not invested in non-green projects.

To improve investor transparency, future iterations of the guidelines could consider encouraging issuers to disclose to investors where unallocated proceeds have been invested. For example, how much of the unallocated proceeds were temporarily invested in green bonds from other issuers, and how much was invested in cash-equivalent instruments to be in line with recommendations in international green bond guidelines.

PBoC could also emphasise in future iterations that the annual reporting on the green bond proceeds (see section 5) provides a simple check that issuers have complied with the rule of all proceeds being allocated to qualifying green projects within a year of issuance.

There is a range of mechanisms to verify that green bonds finance qualifying green assets. The most common mechanism is for green bond issuers to use an external review to provide investors with increased confidence in the green credentials of the bond both pre-issuance and post-issuance:

- **Pre-issuance:** External reviews are used pre-issuance to provide investors with information particularly on what types of green projects the bond will fund and what management processes the issuer has in place to ensure the funds are allocated only to these green projects.
- **Post-issuance:** Post-issuance, external reviews are used to assure investors that the funds are allocated as was promised pre-issuance, and provide more information on the environmental impacts of the bonds.

External reviews are an important improvement on issuer disclosure (first party review), as they provide an independent check on the validity of the issuers' claims for the environmental credentials of the green bonds.

Another benefit of external reviews is to help educate new green bond issuers on what information investors are seeking so they can be confident of the environmental credentials of the green bond.

External reviews can cover use of proceeds, management or proceeds and reporting procedures. In the green bond market, external reviews come in the form of second-party reviews or third-party certification:

- **Second-party review:** A second party organisation—an external organisation with environmental expertise—is arranged by the issuer to check the issuance framework and green credentials of the bond. Often the second party also works with the issuers to help them with the initial development of a green bond framework, which the second-party provider then subsequently evaluates. External help in developing green bond frameworks is valuable for the issuers, particularly for first time issuers; however, it reduces the independence of the second-party in reviewing the issuer's framework, as the second-party provider is then reviewing their own work.
- **Third-party certification:** The third-party verifier, who is arranged by the issuer, reviews the bond against relevant criteria for the environmental credentials of projects and assets. The criteria have been previously developed by another independent entity (the standards provider). The verifier also checks compliance against standard criteria for management of proceeds and reporting as also developed by the standards provider.

Current practice in China: Independent review of green bonds credentials encouraged

PBoC's Guidelines encourage issuers to arrange external reviews on the green credentials of the bonds, although it is not at present a requirement. The recommendation does not distinguish between second-party reviews and third-party certification. The official encouragement of external reviews for green bonds is useful to drive issuers to getting external reviews, but also in incentivising institutions and service providers to develop the necessary capabilities.

The first green bonds issued in China since the release of the guidelines suggest issuers will follow the recommendations from PBoC and choose to get external reviews of their green bond claims, as set out in Table 5.

There is not yet a standardised procedure for providing external review on green bonds in China.

The lack of standardised procedure is evident from the difference in reviews in the table above. Different verifiers each have their own procedures and criteria that they include in a second-party review. This increases transaction costs for investors in using the reviews to evaluate green bonds. It also limits the comparability of green bonds from different issuers, particularly if different reviewers cover them.

The second-party reviews are not fully independent checks of the green claims of the bonds, as the second-party reviewers often help issuers develop their green bond frameworks as well as checking

Table 5: Examples of external reviews of green bonds in China

Issuer	Type of review	External reviewer	What's included in the review
Shanghai Pudong Development Bank	Second-party review following international certification methodology[28]	EY	Pre-issuance report covering green credentials, management of the use of proceeds, and reporting and disclosure. The review checked the green bond's alignment with PBoC's guidelines.
China Industrial Bank	Second party review	RCCEF	Pre-issuance report covering use of proceeds, decision making process and technical criteria of project selection, and environmental objectives of the underlying projects. The review checked the green bond's alignment with PBoC's guidelines and the international Green Bond Principles.

them. This lack of independence is increasingly a concern as the market grows and more issuers enter the market, as the opportunity for environmental fraud then increases. Having truly independent reviews is an important mechanism to prevent inappropriate environmental claims and fraud.

Third-party certification will help standardise the external review process.
We are yet to see third-party certification following standardised procedures for the external review of a green bond in China. This is despite the issuance of approximately USD 5 billion of green bonds in the Chinese market following the international certification methodology without being directly certified.

The capacity to implement third-party certification against green bond standards is emerging in China. Approved verifiers under the international Climate Bonds Standard & Certification Scheme, such as KPMG, EY, DNV GL, Bureau Veritas and Trucost, could provide certification services in China against the Climate Bonds Standard. SynTao Green Finance became the first Chinese company to be approved as a verifier against the international Climate Bonds Standard in January 2016.

This means that all of these verifiers can provide issuers with third-party certification against the international Climate Bonds Standard, as well as checking adherence to PBoC's Guidelines.

International practice: Second-party review for most green bonds with an increasing number of third party certifications

The majority of green bonds in the international market use some form of external review. This is particularly prevalent in the European market, but it is also being increasingly used in the US market.

International practice for second-party reviews

Second-party review is the most common type of review in the international green bond market, used by 60% of green bonds issued by mid-2015.[29] Second-party reviews are provided by research service providers focused on Environmental Social and Governance (ESG) or scientific expertise.[30] The second-party typically reviews the adherence of the bond to the four pillars of the Green Bond Principles: use of proceeds, process for project evaluation and selection, management of proceeds, reporting. Some second-party reviews also provide additional evaluation of the greenness of the eligible projects or assets.

However, the second-party reviews currently lack standardisation across different providers and typically also within the same provider, leading to incomparability among different green bonds. One of the second-party reviewers, CICERO, has attempted to address the issue of lack of standardisation by developing a rating system for the green bonds ("Shades of Green" ratings), which increases comparability between their reviews; however, it's not comparable to reviews from other service providers.

The lack of standardised reviews means investors still have to evaluate the green credentials of each individual green bond issuance, which keeps their transaction costs relatively high. This solution can work for a niche market; however, it is not scalable in the mainstream market as the transaction costs to investors become significant when the volume of green bond investment increases. Second-party reviews are however an important tool while standards are being developed.

Another issue is that the second party reviews do not truly represent an independent review of the green claims of the bond, as the second-party organisation typically helps the issuer develop the green bond framework as well as checking it.

International practice for third-party certification

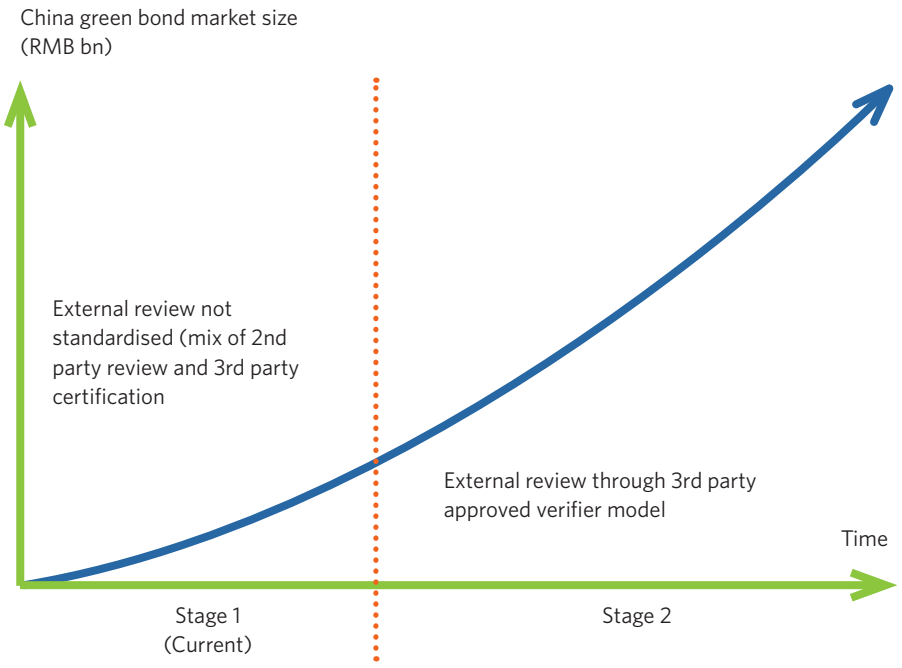
For third-party certification, at present, there is only one certification scheme for green bonds in the international market—the Climate Bonds Standard & Certification Scheme. The scheme uses standardised approaches and has set up clear rules and procedures for verification and certification in terms of green credentials, use of proceeds, and reporting.[31] As at mid-March 2016, certification has been used by USD 5 billion of green bonds.[32] Increased uptake is expected over the next years as sector-specific criteria are being provided for an increasing number of sectors.

Certification of green bonds against a standard allows investors, governments and other stakeholders to prioritise green bonds with confidence that the funds are being used to deliver a low-carbon and climate-resilient economy. It avoids investors having to evaluate or do expensive due diligence on green credentials of green bonds.

International experience with policing of green claims

So far, reputation and regulatory anxiety has been sufficient policing mechanisms to prevent environmental fraud, but as the market grows and opportunities for fraud increase, further policing mechanisms may be explored. In the international market, there has been discussion of investor-led penalties in the form of raised interest rates payable to the bondholders if issuers default on green credentials of their green bonds; however, no such policing mechanism has yet been implemented.

Figure 2: Independent, standardised reviews become more important as the Chinese green bond market grows



Roadmap for the next stage of external reviews in China: Implementing a third-party certification approved verifier model enables market scale

A robust model for external reviews becomes more important as China's green bond market grows.

Moving to a third-party review (certification) model in the next stage for China's green bond market growth enables investors to evaluate the credentials of each green bond with lower transaction costs. This enables investment to scale, as investors can evaluate the green credentials of the standard that is certified against, instead of evaluating each individual bond issuance. A third-party certification model also ensures the verifiers provide a truly independent check on the green credentials of the bond, which is important to prevent inappropriate environmental claims and fraud as the market grows and a broader range of issuers joins the market.

The potential for inappropriate environmental claims and fraud increases if policy incentives for green bonds are implemented in the next stage of the market, as has been proposed by PBoC and NDRC, prior to establishing a robust mechanism to ensure the validity of issuers' green claims. Moving towards third-party review (certification) at an early stage will minimise the risk of these problems in the next stage of green bond market growth in China.

PBoC could endorse the use of an approved verifier model for implementing third-party certification.

Using an approved verifier model to implement certification implies that one organisation acts as a gatekeeper to allow a range of verifiers into the green bond markets to provide certification. The Green Finance Committee could take on this gatekeeper role, or delegate it to an entity with relevant experience, such as the Climate Bonds Standard & Certification Scheme. The Climate Bonds Standard & Certification Scheme already uses the approved verifier model internationally.

The approved verifier model enables standardisation of what is provided by verifiers, as the approver can set criteria for verifiers and the services they provide for green bonds. This helps to ensure that a level of quality is maintained in the verification process.

Clear criteria for approving verifiers should be established by the gatekeeping organisation to ensure that only verifiers with sufficient expertise are allowed to provide verification services for green bonds. This will minimise the risk of inappropriate environmental claims and fraud in the green bond market. A range of different organisations could be approved as verifiers for China's green bonds market. Examples of criteria that could be established for approving verifiers, and the types of organisations well placed to comply with the criteria, are set out in the box below.

Box 2: How to select and approve green bond verifiers in China

Examples of criteria for selecting and approving green bond verifiers

- Sufficient levels of environmental knowledge, technical expertise and financial understanding to verify all aspects of the green bond.
- Experience with the use of international assurance standards, e.g. ISAE 3000 (see further details in Appendix 5) for the process of assurance engagements.
- Financial heath and history of the verifier, i.e. lower financial risk.
- Professional liability insurance. This is to protect verifiers against the costs of any claims for mistakes or negligence when the verifier is providing professional services to bond issuers.
- Avoiding conflict of interest.[33] A conflict of interest may create a threat to the objectivity of the verification report provided by the verifier. For example, the objectivity of the verification report may be affected when a verifier has helped to develop the internal green bond procedures for the issuer, which the verifier then assesses as part of the verification.

A range of different organisations could be approved as verifiers for China's green bonds market:

- Domestic organisations; The first domestic organisation has been approved as a verifier under the Climate Bonds Standard (SynTao Green Finance). Types of organisations that could qualify as verifiers include universities with relevant environmental expertise and audit firms.
- International organisations with existing expertise in offering green bond reviews. International organisations who already have been approved as verifiers under the Climate Bonds Standard include Bureau Veritas, DNV-GL, EY, KPMG and Trucost. They are well placed to help improve the green bonds' international credibility by offering 'dual certification' against the Climate Bonds Standard and PBoC's guidelines.
- Joint venture between domestic and international organisations: International verifiers could set up joint venture with local organisations to provide certification services. It can help build the capacity of local certification institutions on green bonds, while also tapping into the domestic institutions' expertise about the Chinese context.

The organisation approving verifiers could publish guidelines for verifiers to facilitate good practice.

To implement an approved verifier model, the Green Finance Committee could also publish guidelines that set out what verifiers should do during the certification process—they could also delegate this to another organisation with expertise in the area. Providing verifiers with clear guidelines will help ensure a level of quality is maintained in the market, and that the process is standardised to keep transaction costs low. Clear guidelines reduce the risk of inappropriate environmental claims and fraud, as verifiers will be guided on how to best prevent these outcomes.

Various mechanisms can be implemented to police verifiers and reduce risk of problems.

The risk of inappropriate environmental claims and fraud can further be reduced by the implementation of effective controls for verifiers. The Green Finance Committee can supervise verifiers directly or they can delegate this to another appropriate entity with relevant experience, such as the Climate Bonds Standards & Certification Scheme. Effective controls for verifiers can include reviewing verifier reports to maintain quality as well as the threat of spot audits of verifier reports. The range of control mechanisms for verifiers should be included in contracts with the approved verifiers, and be clearly communicated to them in the approval process.

International green bond certification schemes could also be officially endorsed.

China could also directly make use of the existing international Climate Bonds Standard & Certification Scheme. Issuers could engage with a list of verifiers approved by the Climate Bonds Standard Board to obtain a dual certification that would check that issuers first meet the requirements from PBoC's domestic Guidelines—a requirement for official issuance approval-and subsequently that they also comply with the international Climate Bonds Standard. The additional certification against the international standard will help attract international investors.

The opportunity to attract international capital at scale for green bonds increased markedly with the opening up of China's inter-bank market to foreign investors in early 2016, as the interbank market accounts for 93% of outstanding bonds in China.[34]

The potential for dual certification is available to the asset classes where the PBoC Guidelines and the Climate Bonds Standard are fully aligned. A small share of green bonds may not be eligible for dual certification if they allocate proceeds to projects which qualify under the PBoC's green bonds Guidelines but are excluded under the international Climate Bonds Standard, notably fossil fuel-based projects.

As an intermediate step, supporting standardisation of second party reviews is also valuable.

This can be useful in the early stages of the market since sector-specific standard criteria required for third party certification are not yet available in all sectors. Standardised second-party reviews would reduce transaction costs compared to the current model of non-standardised reviews, and improve comparability between different green bonds, allowing investors to more easily distinguish between different green bonds as the market grows. However, transaction costs for investors would remain higher than under a third-party certification model, as they would still have to evaluate individual bond issuances rather than a one-off evaluation of a standard.

5. Reporting and Disclosure

Reporting by the green bond issuer to investors and the wider market on the green bond throughout the bond term is an important feature of the green bond concept. Reporting provides investors with information on their investment beyond the financial performance of the bond.

Current practice in China: Reporting on use of proceeds required, environmental impact reporting encouraged

PBoC's guidelines require issuers to report quarterly to the market the types of green projects the bond is funding. For example, a first report from an issuer could state that RMB 1 billion of a RMB 3 billion bond has been allocated to solar projects, and RMB 1 billion has been allocated to water projects and RMB 1 billion has not yet been allocated. A special auditor's report is required to confirm the use of proceeds. Issuers must also submit an annual report on the use of proceeds directly to PBoC.

PBoC guidelines encourage issuers to report on the environmental impact of the underlying projects as well; however, this is not a requirement. This means that an issuer would be required to disclose that proceeds are allocated to solar projects for example, but providing data on emissions saved from the investment is not a necessity to comply with PBoC's guidelines—although it is encouraged. The guidelines do not include any information on what kind of environmental information should be disclosed.

NDRC's guidelines do not yet cover reporting.

International practice: Comprehensive recommendations for reporting on use of proceeds, management of proceeds and environmental impacts, moving to standardisation

The international green bond market has increasingly comprehensive recommendations for reporting that cover use of proceeds, management of proceeds and environmental impacts. Current practice in the international market is annual reporting on the green bonds throughout the bond term, in a separate report, or as part of the issuer's annual report.

The Green Bond Principles set out reporting guidelines.

The Green Bond Principles suggest that, in addition to the reporting on the use of proceeds and investment of unallocated proceeds, issuers should use qualitative and/or quantitative performance indicators to measure the environmental impact of the specific investments where applicable. Environmental impact indicators can include greenhouse gas emissions reductions or appropriate proxies, such as avoided vehicle miles travelled.

The Climate Bonds Standard sets out reporting requirements, rather than recommendations.

The requirements are aligned with and build on the reporting recommendations of the Green Bond Principles. Issuers are required to report annually what green projects or assets have been funded, the amounts disbursed to the different projects or assets, and the expected environmental objectives of the projects with qualitative and/or quantitative performance indicators where applicable.

Standardisation of reporting is important to reduce transaction costs for investors and issuers.

The first few years of the international green bond market saw a less standardised approach to reporting, but steps are being taken to standardise. In 2015, a group of multilateral development banks came together to develop a harmonised approach for similar organisations on the reporting of environmental impacts of green bonds. A proposed harmonised reporting approach from eleven financial institutions was published in December 2015.[35] Under the Climate Bonds Standard, the reporting requirements are standardised for all issuers to provide the minimum information investors want to see. Issuers can then enhance their reporting and disclosure if they want to.

Roadmap for next stage of reporting requirements: Standardisation and improved disclosure of environmental impact of projects

Moving from recommending to requiring reporting on green credentials

At the initial stage of green bond market development, limiting the required reporting to keep transaction costs low is appropriate to kick-start the market. However, as China's market matures, a much broader range of issuers will join the market and the risk of inappropriate environmental claims and fraud around the green credentials of the bonds will increase. Requiring, rather than recommending, disclosure of the environmental impacts of green projects would enable investors to further evaluate the green credentials of the bonds they invest in. This could increase their confidence that the green bond is making a material contribution to the shift to a green economy.

Requiring, rather than recommending, disclosure of the environmental impacts of green projects would enable investors to further evaluate the green credentials of the bonds they invest in.

In a next stage of the guidelines, the PBoC could therefore include disclosure requirements related to more detailed environmental information of the underlying green projects, in addition to the current reporting requirements on the use of proceeds. Further strengthening the reporting requirements for green bonds in future iterations of the official guidelines is aligned with other actions Chinese regulators are already taking to improve environmental disclosure in the equities space.[36]

Encouraging standardised reporting by offering more detailed guidance on what to report on

The PBoC could encourage standardised reporting by detailing in their guidelines the types of environmental information to be disclosed for different project types.

Standardising the disclosure of the environmental impacts 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.

6. Conclusion

PBoC's green bond guidelines provide a foundation for China's green bond market growth

PBoC's official green bond guidelines, published in December 2015, support the building of a robust green bond market in China. PBoC has provided guidance on green definitions, management of proceeds, reporting and disclosure, as well as assurance services including second party review and third party certification. NDRC has also developed green bond guidelines; however, these are less comprehensive than PBoC's guidelines. The Shanghai Stock Exchange has released green bond guidelines which incorporate much of the PBoC's requirements, including the project catalogue.

Increasingly harmonising with international practice will enable increased foreign investment in China's green bonds

Attracting international investment is crucial for China to meet the massive investment needs for the green transition with low-cost capital. Lowering the cost of capital increases the economic viability of green projects with high upfront capital needs. Attracting international investment at scale also diversifies the investor base and increases market liquidity.

The opening up of China's inter-bank bond market to international institutional investors in February 2016 further enables foreign investment in Chinese green bonds. Harmonising China's green bond guidelines and practices with international practice, guidelines and standard schemes can make it easier for international investors to take advantage of the opening up of the inter-bank bond market and invest in green bonds, as the guidelines ensuring the green credentials of the bonds would be more familiar to them.

Roadmap for future green bond guidelines development for China

This paper has compared China's current green bond guidelines with international best practice to develop a practical roadmap for China's policymakers to consider for the next iteration of official green bond guidelines.

Green definitions: Aligning with international definitions and linking definitions to China's official environmental targets

- 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.

Future iterations of China's green bond guidelines could use a scientific framework to ensure that the project-level criteria for green bonds are in line with China's national environmental targets, including emission reduction targets.

- Future iterations of China's green bond guidelines could use a scientific framework to ensure that the project-level criteria for green bonds are in line with China's national environmental targets, including emission reduction targets. This would help ensure that green bonds remain sufficiently ambitious to be a viable tool for China to achieve its national targets.
- 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 different regulators who cover different segments have published separate green bond guidelines. More communication and coordination between different regulatory authorities could help harmonise domestic green definitions, which would help build an integrated, national green bond market in China that can facilitate issuance and investment at scale with low transaction costs.

Management of proceeds: Earmarking provides investors with sufficient assurance that green bond funds are being tracked

- PBoC's current guidelines provide robust guidance to issuers for management of proceeds by requiring ring-fencing and earmarking of the green bond funds. This represents full alignment with international approaches.
- To further improve the guidance, PBoC could consider providing more details on the differences between earmarking or ring-fencing to give issuers a stronger basis for deciding which tracking system to use.
- PBOC's current requirements for investment of unallocated proceeds provide sufficiently robust rules to ensure that unallocated proceeds are not invested in non-green projects. This represents full alignment with international approaches.
- Future iterations of the guidelines could consider encouraging issuers to disclose to investors where unallocated proceeds have been invested to be in line with recommendations in international green bond guidelines.
- PBoC could also emphasise in future iterations that the annual reporting on the green bond proceeds provides a simple check that issuers have complied with the rule of all proceeds being allocated to qualifying green projects within a year of issuance.

Reporting requirements: Environmental impact disclosure and encouraging standardisation

- PBoC's current guidelines provide robust guidance to issuers for reporting and disclosure, which represent full alignment with international approaches.
- PBoC could include disclosure requirements for more detailed environmental information of the underlying green projects, in addition to the current reporting requirements of the use of proceeds.

- The PBoC could encourage standardised reporting by detailing in their guidelines the types of environmental information to be disclosed for different project types. Standardising the disclosure of the environmental impacts 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.

External reviews and assurance: implementing a third-party certification-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.

- China could also directly make use of the existing Climate Bonds Standard & Certification Scheme, which also applies the approved verifier third-party certification model. Issuers could obtain a dual certification that would check that issuers first meet the requirements from the PBoC's domestic guidelines and subsequently that they also comply with the international Climate Bonds Standard. The additional certification against the international standard will help take advantage of the potential to attract international investors, which has been made possible at scale by the opening of the inter-bank market to international institutional investors.

Appendix 1: Regulatory System of the Chinese Bond Market

1. Based on market type of sectors under the Climate Bonds Standard	
Market type	**Regulatory authority**
Inter-bank bond market (93% of outstanding bonds listed here)	PBoC
Stock exchange bond market	CSRC

2. Based on bond types under the Climate Bonds Standard		
Bond type		**Regulatory authority**
Government bond		PBoC, Ministry of Finance, CSRC
Central bank bond		PBoC
Financial bond	Policy bank bond, special financial bond	PBoC
	Commercial bank bond, non-bank financial institution bond	CBRC, PBoC
	Securities company corporate bond, security company short-term financing bond	PBoC, CSRC
Short-term financing bond, medium-term notes		NAFMII
Asset-backed securities (ABS)		CBRC, PBoC
Corporate bond		NDRC, PBoC, CSRC
International institution bond		PBoC, Ministry of Finance, NDRC, CSRC
Convertible bond		PBoC, CSRC
Listed-company bond		CSRC
SME private placement bond		Stock Exchange

PBoC: People's Bank of China

CSRC: China Securities Regulatory Commission

CBRC: China Banking Regulatory Commission

NDRC: National Development and Reform Commission

NAFMII: National Association of Financial Market Institutional Investors

Appendix 2: An Overview of Green Definitions Endorsed by PBoC and NDRC

PBoC: China Green Bond Endorsed Project Catalogue		NDRC green bond guidelines
Categories	**Sub-categories**	**Areas**
1. Energy saving	• Industrial energy saving • Sustainable buildings • Energy management centre • Urban and rural infrastructure construction with energy-saving efficiency	• Technology improvement for energy saving and emission reduction • Green urbanisation[37] - energy • Energy saving and environmental protection industry
2. Pollution prevention and control	• Pollution prevention and control • Environmental restoration project • Clean utilisation of coal	• Pollution prevention and control
3. Resources conservation and recycling	• Water saving and unconventional water use • Redevelopment and integrated utilisation of tailings and associated mine byproducts • Recycling and utilisation of industrial solid waste exhaust gas and effluent • Recycling, processing and utilisation of renewable resource • Remanufacturing of electromechanical products • Recycling and utilisation of biomass resources	• Circular economy • Water saving and unconventional water use
4. Clean transportation	• Railway transportation • Urban rail transit • Public urban and rural transportation • Waterway transportation • Clean fuel • New energy automobile • Internet application on transportation	• Green urbanisation - transport
5. Clean energy	• Wind power generation • Solar photovoltaic (PV) power generation • Smart grid and energy internet • Distributed energy resource • Solar thermal application • Hydropower generation • Other new energy application	• Clean and efficient use of energy • New energy - hydropower, wind, nuclear, solar, bioenergy, geothermal, shallow geothermal energy, marine, and air energy
6. Ecological protection and climate change adaptation	• Natural ecological protection and protective development of tourism resource • Ecological agriculture, husbandry and fishery • Forestry development • Emergency prevention and control of disaster	• Ecological agriculture and forestry • Ecological civilisation demonstration projects • Low-carbon industry projects • Low-carbon demonstration projects

Appendix 3: Categories of Green Projects with Differences Between China and International Green Bond Market Practice

Fossil fuel projects: Currently included in China, but excluded internationally

International green bond guidelines and standards including those in the Green Bond Principles, the Climate Bonds Standard and green bond indices have excluded the use of fossil fuels. In practice, fossil fuel projects have also been excluded from use of proceeds by issuers in the international market to date. Fossil fuel companies could issue green bonds provided the proceeds are allocated to green, non-fossil fuel projects, but proceeds cannot be allocated to fossil fuel projects.

In contrast, PBoC's Catalogue includes 'clean utilisation of coal'[38] as a qualifying green project type. The guidelines also include fuel production and associated construction and operation of facilities as qualifying green projects if the gasoline and diesel produced meet the requirements set in China's national standards.[39]

Public transport projects that use fossil fuels: Further sector-specific criteria can be developed or adopted by China

Under the international Climate Bonds Standard, transport projects must meet a certain emissions intensity threshold of gCO2/passenger-km (for passenger) or gCO2/t-km (for freight) to qualify for financing by green bond issuance.

That is, bus projects that use fossil fuels are not automatically included in the international market, but can qualify on the condition that they prove compliance with the threshold for emissions intensity set out by the standard. Electric buses or buses powered by hydrogen automatically qualify under the standard, as all electric and hydrogen buses meet the threshold for emissions intensity.

In the current PBoC-endorsed Catalogue, all bus projects are automatically considered as green without further conditions for emissions intensity. Future iterations of the Catalogue could consider implementing thresholds for emissions intensity to determine which public transport projects qualify for green bond issuance.

In practice, it is expected that a significant share of China's public transport projects that use fossil fuels would qualify with appropriate emission thresholds per passenger.

Similarly, the PBoC endorsed Catalogue currently qualifies all rail projects for green bond issuance. This is largely in line with international standards and practice, as all rail—except rail lines dedicated to fossil fuels, such as a coal mine—qualify under the low-carbon transport criteria for the Climate Bonds Standard, as all rail meets the carbon intensity criteria set out above. Future iterations of the Catalogue endorsed by PBoC could apply an emissions threshold for rail in the same way as for bus systems.

Supply chain of green products or facilities can be included by China in future iterations

PBoC's Catalogue only covers investment in the direct construction and operation of green devices or facilities: it does not cover supply chain investments, except the manufacturing of clean energy vehicles. For example, the construction of a solar farm would qualify for green bond issuance, while the manufacturing of the solar panels would not qualify. This exclusion is due to the complexity in evaluating the indirect environmental credentials of the manufacturing process of green products or equipment.[40]

This contrasts with practices in the international green bond market, where supply chain projects and assets such as the manufacturing facilities for products and/or equipment are normally included. For example, the Climate Bonds Standard Taxonomy covers facilities for manufacturing of wind power equipment.

Appendix 4: Refinancing: The Role of Bonds in the Capital Pipeline

The largest share of bond issuance is used to refinance debt rather than provide initial debt to a new project. This is the role of bonds in the capital pipeline generally, and will therefore also be the main role of bonds in financing green projects.

Bonds can lower total project cost of capital.

Refinancing through bond issuance allows companies to take on short-term bank lending for the construction phase of a project and then pay the loan back by issuing bonds once the construction phase is over. As construction is usually the highest risk part of a project, bond issuance post-construction can provide a longer-term lower cost of capital.

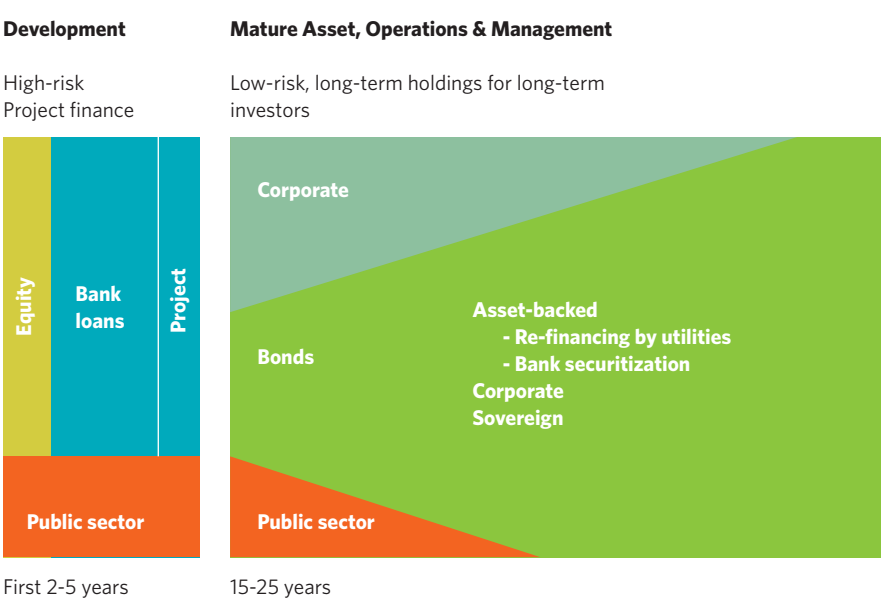
Bonds allow lenders to recycle funds to new projects.

Moreover, given that few institutional investors are comfortable with taking on construction risk in a large part of their portfolio, this allows the banks (and the smaller pool of institutional investors with a higher-risk appetite) to more quickly recycle their funds into new projects. Having an exit strategy gives banks an incentive to create an increased pipeline for these types of loans. The easier it is for loans to be offloaded, the more likely banks are to lend more and for longer terms.

Bonds are particularly suited for low-carbon projects.

Refinancing and obtaining lower-cost debt is particularly attractive for low-carbon infrastructure assets as they have a particularly low operating risk post-construction compared to the construction phase. This means that the difference between the cost of capital for low-carbon projects before and after construction could be significant.

Figure 3: Bonds are mainly used to finance the lower-risk mature assets post-construction



Appendix 5: ISAE 3000

ISAE 3000 deals with assurance engagements other than audits or reviews of historical financial information. It provides guidance on verification process, which shall be used by approved verifiers under the Climate Bonds Standard to provide verification services for third party certification. ISAE 3000 is developed by the International Auditing and Assurance Standards Board (IAASB), who is developing auditing and assurance standards and guidance for use by all professional accountants.

The guidance on verification process contained in ISAE 3000 includes:

- Conduct of an Assurance Engagement in Accordance with ISAE
- Ethical Requirements
- Acceptance and Continuance
- Quality Control
- Professional Skepticism, Professional Judgment, and Assurance Skills and Techniques
- Planning and Performing the Engagement
- Obtaining Evidence
- Subsequent Events
- Other Information
- Description of Applicable Criteria
- Forming the Assurance Conclusion
- Preparing the Assurance Report
- Unmodified and Modified Conclusions
- Other Communication Responsibilities
- Documentation

Full information can be found at: https://www.ifac.org/publications-resources/international-standard-assurance-engagements-isae-3000-revised-assurance-enga

Appendix 6: International Guidance on Green Definitions, Management of Proceeds, Reporting and Assurance

Guidelines and standards

Green Bond Principles: Voluntary guidelines for the green bond issuance process

The Green Bond Principles, issued early in 2014, are a set of voluntary guidelines developed around the design and reporting characteristics of green bonds. The principles promote the idea of green bonds being about the use of proceeds for green assets rather than for green "issuers". They cover establishing sound management processes for the use of proceeds and the use of independent reviewers for both environmental credentials and robust reporting practices.

An updated version of the principles was published in March 2015. While the principles do include broad categories for what can be included as green projects to be financed by green bonds, they do not try to promote detailed criteria to standardise what is green.

Climate Bonds Standard: Criteria for what is green, as well as the issuance process

The Climate Bond Standards seek to provide common, science-referenced classification for the green bond market of what is green. The Climate Bonds Standards Board, which represents investors with USD 34 trillion of assets under management, oversees the development of the standards. The board convenes scientists, investors and other specialists in expert committees that develop clear and science-based criteria to identify the assets and projects that can be financed with green bonds. The newly updated Climate Bonds Standard also sets up issuance processes for green bonds, fully integrating the Green Bond Principles.

The international Climate Bonds Standard is based on an overarching target of limiting global warming to an increase of less than 2°C of pre-industrial averages. The Climate Bonds Taxonomy serves as a screening tool for the Standard, selecting eligible projects areas with some further technical criteria within the project categories.

Green bond indices

The indices apply different filters for what qualifies as a green bond, and therefore also play a role in enforcing robust green credentials in the market, in addition to the external reviews initiated by issuers, as set out above. As the bulk of assets under management globally are passive investments tracking indices, green bond indices are an important mechanism to ensure the market is scalable, yet environmentally rigorous.

Several green bond funds have been launched that track green bond indices. Further development of indices is crucial to facilitate the continued development of green bond products. Another important role for green bond indices is building a performance history for green bonds.

An overview of the green bond indices in the market and their inclusion criteria is set out in the figure below. The indices in the market to date have close to common criteria for what is green. The Climate Bonds Taxonomy is the base definition for what is green for three of the indices (S&P Dow Jones, Barclays & MSCI[41] and Solactive) with green bond data for the indices provided by the Climate Bonds Initiative. Bank of America Merrill Lynch's index uses data provider Bloomberg's definition for what is green, which is synchronised with the Climate Bonds Initiative.

PBoC: China Green Bond Endorsed Project Catalogue						
Categories	**Min Size**	**Investment grade only**	**Bond types**	**Coupon**	**Maturity**	**Green criteria**
Solactive	$100m	Mixed (non-investment grade & unrated included)	Corporate, Bank, Development Bank	Fixed only	>6 months	• Complies with the Climate Bond Taxonomy
S&P Dow Jones	n/a	Mixed (non-investment grade & unrated included)	Corporate, Bnak Development Bank, Municipal (ex US)	Fixed, zero, step-up, fixed to float, floaters	> 1 year	• Complies with the Climate Bond Taxonomy • Separate unlabelled climate project bond index
Barclays & MSCI	$250m	Yes	Corporate, Bank, Development Bank, Municipal (ex US), ABS	Fixed only	Matures in index	• Complies with the Climate Bond Taxonomy • MSCI environmental assessment, unlabelled climate bonds are eligible
Bank of America Merrill Lynch	$250m	Yes	Corporate, Bank, Development Bank, Municipal (ex US)	n/a	>1 month	• Complies with the Bloomberg green bond definition

Green bond stock exchange lists

Another tool that guides the market is green bond lists, established by stock exchanges. As at December 2015, Oslo, Stockholm, Luxembourg and London have launched green bond lists, and Mexico has also announced they will be establishing one. The Shanghai Stock Exchange has just announced that it will soon create a green bond list.

The lists are useful in improving the visibility of green bonds to investors, and encourage secondary market trading. So far, the green bond lists do not set criteria for green specifically, unlike the green bond indices. Instead, the requirement for inclusion is that the green bonds have a publicly available independent review.

Green bonds assessments from rating agencies

In early 2016, the international rating agency Moody's announced a Green Bond Assessment framework for public consultation. The Green Bond Assessment does not set out specific criteria for what is green, but provides a framework to assess issuers' management, administration and reporting on environmental projects financed through green bonds.

1. Prepared for the Development Research Centre (DRC) of the State Council of China as part of a joint project with IISD
2. The World Bank (2007). Cost of Pollution in China. Available from: http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/China_Cost_of_Pollution.pdf
3. http://finance.china.com.cn/money/bank/yhyw/20160317/3631992.shtml
4. People's Bank of China/United Nations Environment Programme.
5. http://www.pbc.gov.cn/tiaofasi/144941/144959/3021203/index.html
6. Liu, L. (2016) China: Liberalizing bond market access. Deutsche Bank, February 2016.
7. Ibid.
8. ibid.
9. http://www.chinabond.com.cn/Channel/19012917#
10. SEB (2016). Paris Agreement will propel the Green Bond market to new heights. Available from: http://sebgroup.com/siteassets/corporations_and_institutions/our_services/markets/fixed_income/green_bonds/the_green_bond_2016_01_13.pdf
11. Moody's (2016). Green bond issuance could exceed $50 billion in 2016. Available from: https://www.moodys.com/research/Moodys-Green-bond-issuance-could-exceed-50-billion-in-2016--PR_343234
12. The Committee is placed under the China Society for Finance & Banking, see more at http://www.greenfinance.org.cn
13. In China, financial bonds refer to bonds issued by financial institutions.
14. The Research Centre for Climate and Energy Finance (RCCEF) sits under the Central University of Finance and Economics in China. RCCEF is a member of the Green Finance Committee, which is leading the research on the Green Bond Endorsed Project Catalogue, i.e. the green definitions in China. See more at http://mpacc.cufe.edu.cn/qhynyjryjzx/index.html
15. Bloomberg (2016) China's $230 Billion Green Bond Thirst to Supercharge Market. Available from: http://www.bloomberg.com/news/articles/2016-02-04/china-s-230-billion-green-bond-thirst-to-supercharge-market
16. http://www.globalcapital.com/article/x4djffxjd6sz/bocom-unveils-mammoth-rmb70bn-green-bond-ambition
17. http://news.xinhuanet.com/finance/2016-03/08/c_128781321.htm; Reuters (2015). http://cn.reuters.com/article/china-bonds-idCNKBS0U708S20151224
18. GFC (2015) China's Green Bond Market is Promising. Available from: http://www.greenfinance.org.cn/displaynews.php?id=462
19. The international green bond market is not yet aligned on inclusion or exclusion of nuclear. The reluctance to include nuclear is not because of any debate around the sound low-carbon credentials of nuclear, but for other environmental safety concerns.
20. The changes to foreign investment in the interbank market announced by PBoC in February 2016 includes: more foreign institutions will be allowed to investment in the market; there is no limit of how much they can invest; the management process of the bonds has been simplified http://www.pbc.gov.cn/tiaofasi/144941/144959/3021203/index.html
21. National Guidance for Industrial Energy Consumption (2014)
22. GB/T50378-2006. The standard includes requirements of land saving and outdoor environment, energy saving and utilisation, water saving and utilisation, materials saving and utilisation, indoor environment quality, and operational management of residential buildings and public buildings. The rating of the building is based on how many targets have been achieved under each dimension.
23. GB/T50378-2006. The standard includes requirements of land saving and outdoor environment, energy saving and utilisation, water saving and utilisation, materials saving and utilisation, indoor environment quality, and operational management of residential buildings and public buildings. The rating of the building is based on how many targets have been achieved under each dimension.
24. CBI (2015). Climate Bonds Green Property Standards: An overview. Available from: http://www.climatebonds.net/standards/resources/climate-bond-standard/low-carbon-buildings-standard
25. China has established 7 pilot emission trading schemes in 2011, which are located in Hubei, Guangdong, Beijing, Shanghai, Shenzhen, Tianjin and Chongqing. The national emission trading scheme is aimed to be set up in 2017.
26. E.g. National Key Energy-Efficient and Low-Carbon Technologies Promotion Catalogue and Catalogue for Low-carbon Technology Promoted with Priority
27. Department of Climate Change, NDRC (2015). China's INDC: Enhanced Action on Climate Change. Available from: http://www4.unfccc.int/submissions/INDC/Submission%20Pages/submissions.aspx
28.EY produced a pre-issuance second party review using the international Climate Bonds Standard certification framework, however, the bond was not certified against the Climate Bonds Standard.
29. Climate Bonds Initiative and HSBC (2015) Bonds and climate change: State of the market 2015.
30. ESG providers of second party reviews in the international market include Vigeo, DNV-GL, Oekom, Sustainalytics and KPMG, and scientific experts include CICERO.
31. With the Climate Bonds Standard, verifiers use a Readiness Assessment Protocol, a checklist-based approach, before bond issuance to ensure the bond's conformance with the pre-issuance requirements in the Standard. After the bond has been issued, an Assurance Engagement is conducted to provide assurance on the bond's conformance with the post-issuance certification requirements of the Standard.
32. Including bonds issued, as well as pipeline soon to be issued, per March 2016.
33. A conflict of interest may arise when the verifier provides the service related to a particular matter for two or more clients whose interests with respect to that matter are in conflict; or the interests of the verifier with respect to a particular matter and the interests of the client for whom the verifier provides the verification service related to that matter are in conflict. http://www.ethicsboard.org/iesba-code/part-b-professional-accountants-public-practice/conflicts-interest
34. http://www.chinabond.com.cn/Channel/19012917#
35. European Investment Bank (2015): Joint communication on a revised proposal for Green Bond impact reporting harmonization. Available from: http://www.eib.org/infocentre/press/releases/all/2015/2015-283-joint-communication-on-a-revised-proposal-for-green-bond-impact-reporting-harmonization.htm
36. The Green Finance Committee has submitted a proposal to increase mandatory requirements for companies to disclose environmental information to a Securities Law Working Group. The Hong Kong Stock Exchange has recently strengthened disclosure requirements for companies on environmental, social and governance issues in its listing rules. The environmental disclosure level of listed companies in China has improved the last years, and companies with higher level of disclosure tend to have better credit ratings, according to the Evaluation Report of Environmental Information Disclosure from Listed Companies in China (2014).
37. The green urbanisation projects under the NDRC guidelines include development of green buildings, building industrialisation, improvement of existing buildings for energy saving, construction of sponge (water protection) cities, construction of smart cities, construction of smart grids, and construction of charging facilities for new energy cars.
38. i.e. construction and operation of devices or facilities conducting coal washing and processing, using coal by quality and classification, utilisation technologies such as gasification that are easy for pollution treatment
39. GB V standard for gasoline and GB IV standard for diesel.
40. GFC (2015) Preparation Instructions on Green Bond Endorsed Project Catalogue (2015 Edition). Available from: http://www.greenfinance.org.cn/displaynews.php?id=468
41. Barclays & MSCI's green bond index provides an additional environmental assessment on top of the foundational criteria to comply with the Climate Bonds Taxonomy.

The Climate Bonds Initiative is an investor focused not-for-profit, mobilizing debt capital markets for a rapid transition to a low-carbon and climate resilient economy.

The International Institute for Sustainable Development (IISD) is one of the world's leading centres of research and innovation. The Institute provides practical solutions to the growing challenges and opportunities of integrating environmental and social priorities with economic development.

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