

STUDY OF CHINA'S LOCAL GOVERNMENT POLICY INSTRUMENTS FOR GREEN BONDS



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Climate Bonds
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Highlights of the Report

According to the Climate Bonds Initiative, green bond issuance in China soared in 2016 from almost zero to RMB 238 billion (USD 36.2 billion), accounting for 39% of global issuance in 2016. In China, most green bonds are issued by financial institutions. Issuers are based primarily in Shanghai, Beijing and Fuzhou. Bonds issued by other non-financial institutions have supported over 110 projects across 27 provincial administrative regions.

Government regulators and stock exchanges have played a pivotal role in the development of green bonds in China. At the local level, incentives such as policy signals, supporting facilities, financial incentives and recognitions have been offered to encourage the development of green finance. This report identifies the policy instruments at the disposal of local governments based on central government policy framework, and presents a few successful and replicable case studies and international experiences as reference for China's future development in promoting green bonds.

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1. The Role of Green Bonds in Solving Environmental Challenges in China

China is facing enormous environmental challenges

Since 1978, China's reform and opening-up program have unleashed spectacular economic growth and prosperity. Over the past three decades China's economy has proved a global success as an economic powerhouse and, through both economic and social policies, has raised a billion people out of poverty.

This vast economic success has, however, come at an immense cost to the environment – a cost that current generations are beginning to deal with and one that will continue to have major health and quality of life implications for future generations. The importance of ensuring that new developments and infrastructure are green is increasingly understood, as major cities are grappling with intense air pollution and clean water problems.¹

Scaling up urban infrastructure and making it green

Globally, infrastructure investment is expected to amount to RMB624tn (USD90tn) over the next 15 years - more than the entire current infrastructure stock.² To facilitate the global transition to a low-carbon economy, an estimated RMB42- 9tn (USD6-7tn) in annual investment will be needed globally over the next 15 years.³

In China, it is estimated that by 2030, more than one billion people will live in Chinese cities⁴. Recognising the urgent need to ensure the quality of urbanisation, the Chinese government has promised to pursue "ecological civilisation and green and low-carbon growth," as one of the guiding principles in the *National Plan on New Urbanization (2014-2020)*.⁵ And as Chinese cities contribute 70 percent of the country's total energy-related carbon emissions, decarbonising cities is the priority to achieve China's climate targets.⁶

The infrastructure investment required by China's urbanisation and economic growth is estimated at RMB42tn (USD6.74 tn) from 2014-2020 alone.⁷ Meanwhile, the People's Bank of China (PBoC) estimates that an annual investment of at least RMB2tn-4tn (USD320bn-640bn) will be required to address environmental and climate change issues.⁸

Green bonds are critical to mobilising capital

Traditional sources of capital for infrastructure investment (governments and commercial banks) are insufficient to meet capital requirements; institutional investors are increasingly being called upon to fill these financing gaps. In China, the PBoC has made a clear statement that public investment alone is not sufficient to meet the investment required for environmental and climate change solutions - public funds will contribute only 15% of the capital required.

Green bonds have emerged as a valuable tool to mobilise the global investment community. As the fastest-growing component of China's green financial system, green bonds have emerged as a vigorous instrument to steer private capital and bond market capital to invest in green projects. Well-designed green bonds can also help promote the diversity and liquidity of China's bond market. While green bonds account for less than 0.2% of all bonds issued globally and 2% in China, the potential for scaling up is tremendous. The market now needs to grow much bigger, and quickly.

2. Development of China's green bond market: national

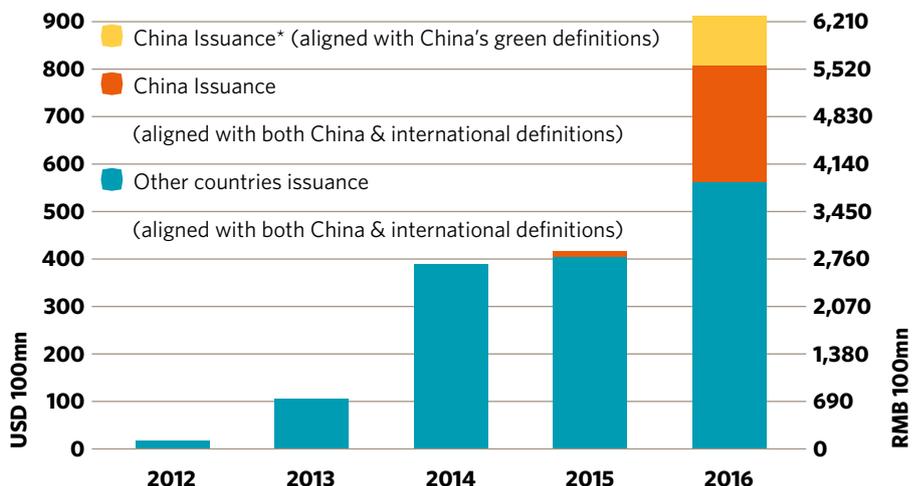
By any measure, 2016 was a year of explosive growth for green bonds in China. According to the Green Bond Database of the China National Financial Information Network, a total of RMB 198.53bn worth of 52 labelled green bonds¹¹ were issued in Mainland China in 2016 (including Panda Bonds but excluding offshore bonds and green asset-backed securities). According to Wind Info, this figure stands at RMB 205.23bn¹², encompassing a total of 53 products from 33 issuers in the form of financial bonds, enterprise bonds, corporate bonds, mid-term notes (MTN), bonds issued by international institutions and asset-backed securities (see appendix 1 for details on different bond types and regulatory system of bond market in China).¹³ According to the Climate Bonds Initiative, the issuance of green bonds in China soared from almost zero in 2015 to RMB 238 billion (USD 36.2 billion) in 2016, accounting for 39% of global issuance¹⁵.

Bonds issued by financial institutions made up the vast majority (79.58%) of China's labelled green bond issuance in 2016. They are larger than corporate bonds, enterprise bonds and other debt-financing instruments in average size. Green bonds issued in the interbank market - which encompasses all bonds from financial institutions and some enterprise bonds and other debt-financing instruments - accounted for 84.57% of total issuance.

In terms of projects and assets financed through green bonds, clean energy was the dominant theme of the six sectors in the PBoC's *Green Bonds Endorsed¹⁷ Project Catalogue*, followed by the clean transportation and energy conservation sectors, while the ecological protection and climate change adaptation sector received less attention.

At present, green bonds already make up 2% of Chinese bonds, whereas globally the figure is less than 0.2%. A far greater potential can be envisaged since 20% of investments in China need to be green to meet national objectives¹⁸.

Fig. 1: China as the main driver for global growth in green bond issuance in 2016



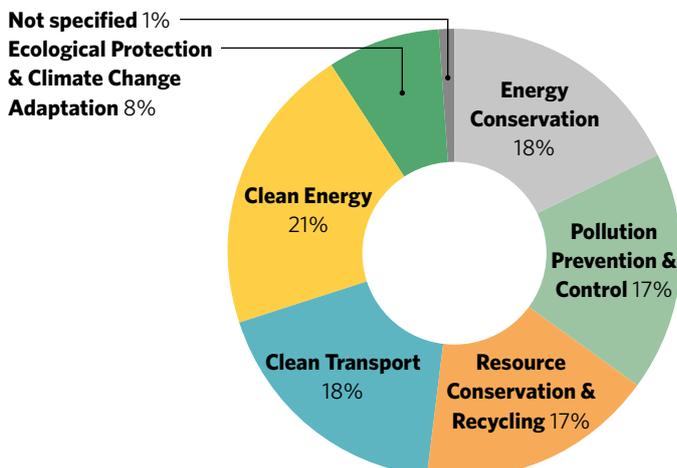
Source: China Green Bond Market 2016, Climate Bonds Initiative / China Central Depository & Clearing Co., Ltd. (CCDC).

Fig. 2: Green bond by type, 2016

Bond types	Amount issued	Number of bonds	Average amount
Financial bonds	158bn RMB	22	7.182bn RMB
Corporate bonds	18.24bn RMB	14	1.303bn RMB
Enterprise bonds	14.09bn RMB	8	1.761bn RMB
Debt financing instruments	8.2bn RMB	8	1.025bn RMB

*Debt financing instruments include mid-term notes (MTN) and private placement notes (PPN).

Fig. 3: Use of proceeds from China green bond issuance, 2016



Source: China Green Bond Market 2016, Climate Bonds Initiative / China Central Depository & Clearing Co., Ltd. (CCDC).

3. Development of China's green bond market: local

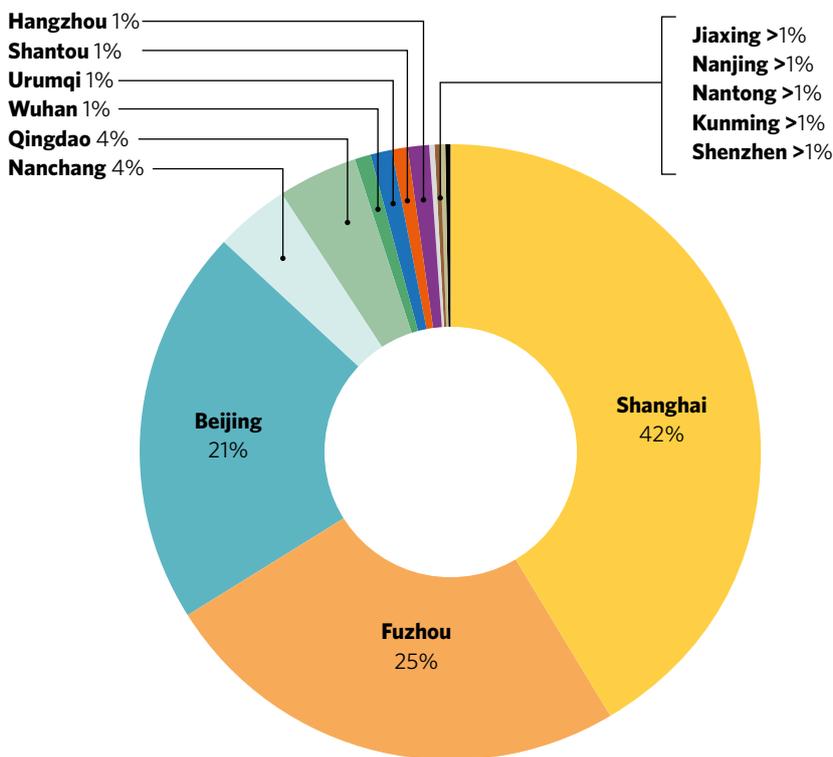
Green bond issuance

All China's regions have issued green bonds in 2016, with eastern and northern regions accounting for the majority.

Most green bond issuers are headquartered in 14 cities. Shanghai, Fujian and Beijing rank top three for amount issued. All the six green bonds issued in Shanghai were financial bonds, including three bonds worth RMB 50bn issued by Shanghai Pudong Development Bank, two bonds worth RMB 30bn issued by the Bank of Communications and one bond worth RMB 3bn issued by the New Development Bank. The three bonds worth RMB 50bn issued in Fujian were all issued by the Industrial Bank of China. Beijing ranked third with total issuance worth RMB 41.53bn. Jiangxi Province ranked fourth with four bonds worth RMB 8bn issued by the Bank of Jiangxi. Shandong Province ranked the fifth with four bonds worth RMB 8bn issued by the Bank of Qingdao. With Shanghai, Fujian and Beijing dominating the bar chart below, other cities pale in comparison in terms of the amount of issuance.

In 2016, 23 green bonds were issued in Beijing - a number much higher than in any other city in China - covering a wide range of issuers, including enterprises, corporates, banks and other debt financing instruments.

Fig. 4 Bond issuance in major cities, 2016



Source: Collected by SynTao Green Finance from openly available data

Use of green bond proceeds

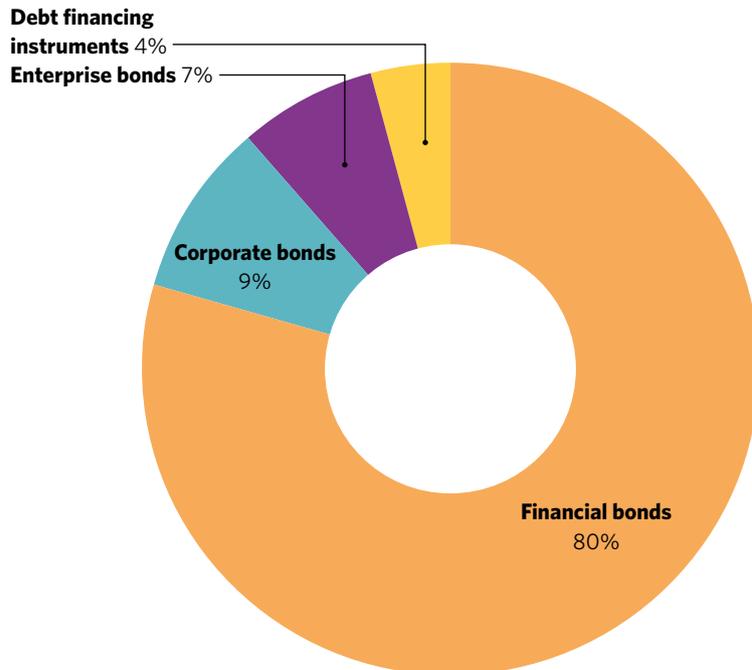
Although green bonds were only issued in a number of cities, the proceeds raised were allocated to a broad range of projects across China. While most enterprise bonds, corporate bonds and other debt financing instruments have disclosed their actual investment projects, financial bonds only revealed the project categories under the PBoC's Green Bonds Endorsed Project Catalogue upon issuance, without giving more details on specific projects. Thus, the analysis below only accounts for the use of proceeds from green bonds issued by non-financial institutions, which made up 21.42% of the total amount of green bond issuance in China.

In 2016, a total of RMB 40.53bn were raised from enterprise bonds, corporate bonds (including Panda Corporate Bonds) and other debt financing instruments. Of which, investments worth RMB 31.25bn were directed to 118 projects clearly identified with provincial-level administrative bodies across 27 provinces, municipalities and autonomous regions.¹⁹

Disclosed project investments were quite evenly spread between Shandong (10.82%), Sichuan (10.39%), Yunnan (9.60%), Hubei (7.76%) provinces and Beijing (8.25%), without concentration in one location.

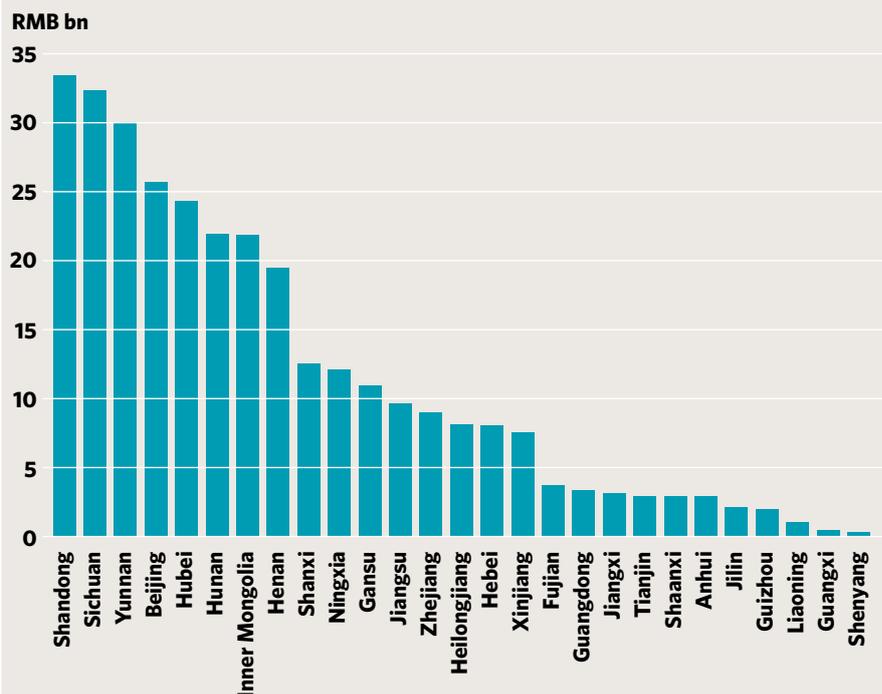
The largest investment was RMB 5bn for Wudongde Hydropower Project (located in Huidong County of Sichuan Province and Luquan County of Yunnan Province, G16 Three Gorges 1 and G16 Three Gorges 2) and the smallest was an RMB 5m loan for the Phase II wind power generator replacement of Inner Mongolia (16 DunAn GN002). As can be seen from the top 15 projects by the amount of investment, the proceeds from green bonds have been allocated to a wide range of projects.

Fig. 6: Green bond issuance by types in 2016



Source: Collected by SynTao Green Finance from openly available data

Fig. 7 Amounts of non-financial bond investments in various provinces, 2016



Source: Collected by SynTao Green Finance from openly available data

4. Local government initiatives to promote green bonds

Regulatory authorities and stock exchanges have played a central role in spurring the development of green bonds in China. At the central government level, the National Strategy of Ecological Civilization has called for a green financial system, and the “13th Five-year Plan” (FYP) identifies institutional innovation as a key driver for the development of green bonds.

At the ministry level, on December 22, 2015, the PBoC released an announcement on green financial bonds; on December 31, the National Development and Reform Commission (NDRC) published the *Guidelines for Issuing Green Bonds*. These two documents officially kick-started the green bond issuance in China; on August 31, 2016, the PBoC and six other ministries jointly released the *Guidelines for Establishing the Green Financial System*, setting a clear direction for the development of the green bond market; on March 2, 2017, the China Securities Regulatory Commission (CSRC) released the *Guidelines for Supporting Green Bond Development* to encourage the issuance of green corporate bonds.

As for stock exchanges, in March and April 2016, Shanghai Stock Exchange and Shenzhen Stock Exchange published the *Notice on Carrying out the Pilot Program of Green Corporate Bond Issuance*, offering fast tracks for green corporate bonds.

Also in March 2017, the National Association of Financial Market Institutional Investors (NAFMII) published the *Guidance on Debt Financing Instruments Issuance from Non-Financial Corporates*²⁰ together with templates for information disclosure, which further improves the green bond market development.

Local governments at provincial and municipal levels also actively responded to the call of the central government by vigorously developing green finance plans and encouraging local financial institutions and non-financial corporates to issue green bonds.

Beijing

On July 14, 2015, 16 agencies including Beijing Municipal Bureau of Financial

Work, the PBoC Department of Business Management and Beijing Energy Conservation and Beijing Energy Conservation and Environmental Protection Centre (BEEC) jointly signed the MoU of Green Bond Alliance Sponsors, which specifies their respective scopes of work in promoting green bond issuance by Beijing-based firms in domestic and overseas capital markets. *Beijing 13th FYP Financial Industry Development Plan* released in December 2016 calls for a green financial system encompassing green bonds along with a host of supporting measures²¹ in place.

Shanghai

On March 3, 2017, the green finance commission of Lujiazui Financial City Management Board and Lujiazui Green Financial Development Centre were inaugurated in Shanghai. On the same day, the *Study on Shanghai's Green Finance Development Paths* was released at 2017 Lujiazui Green Finance Forum.

Guangdong Province

In November 2016, the Department of Environmental Protection of Guangdong Province, PBoC Guangzhou Branch and Finance Affairs Office of Guangdong Provincial promulgated the *Implementing Opinions on Environment-Finance Integration for Green Development* to support environmentally-friendly firms to engage in bond financing, green bond issuance and securitisation of credit (loans).

Qinghai Province

According to *Implementing Opinions on Green Finance Development*, promulgated by PBoC Xining Central Branch, Finance Affairs Office of Qinghai Province and CBRC Qinghai Office in August 2016, Qinghai will strive to promote the issuance of green bonds in the province, including green financial bonds, green bonds issued by non-financial corporates, green enterprise bonds and green corporate bonds, and “increase support through tax exemption and green credit enhancement.”

The *Implementing Opinions* also states that “qualified enterprises should be encouraged to issue green bonds overseas.” Meanwhile, it specifies that prior to March 15, each year, all financial institutions located in the province must report the status of their green credit²², green bonds, green insurance and other metrics to the provincial offices of the PBoC, CBRC, CSRC and CIRC and Finance Affairs Office. Such information - to be released by Xining Central Branch of the PBoC after review - will be used as the basis for evaluation of and award for the financial industry's contribution to provincial economic and social development as well as the use of monetary policy instruments.

Huzhou, Zhejiang Province

On April 19, 2016, Huzhou municipal government created the Green Finance Innovation Steering Group led by the mayor and developed a green finance policy framework including: (1) *Huzhou FYP for Green Finance Reform and Innovation*; (2) *Huzhou 2016 Action Plan for Green Finance Reform and Innovation*; (3) *Huzhou 2016 Activity Schedule for Green Finance Reform and Innovation*; and (4) *Huzhou Green Finance Statistical Indicators System*. The government aims to create a bond project pipeline to promote the issuance of green bonds.

Quzhou, Zhejiang Province

In 2014, Quzhou was identified as the pilot city in Zhejiang Province for a comprehensive green finance reform under the reform scheme to integrate green industry with the financial system. In April 2016, Quzhou municipal government established the Quzhou Green Finance Steering Group, in which the Green Bond Team is headed by the municipal development and reform commission.

Xiamen, Fujian Province

According to the *Opinions on Promoting Green Finance Development for Banking Institutions in Xiamen* jointly released by Xiamen Finance Affairs Office, Xiamen Branch of CBRC, Xiamen Municipal Finance Bureau and Xiamen Central Branch of the PBoC in November 2016, banks should broaden financing channels and reduce the cost of financing for businesses by issuing green financial bonds and piloting the securitisation of green credit (loans); develop green bond markets and encourage qualified enterprises to issue green bond financing instruments.

Suzhou, Jiangsu Province

According to the *Interim Measures for Green Finance Performance Evaluation of Banking Institutions in Suzhou*, jointly released by the Suzhou Central Branch of the PBoC, the Finance Affairs Office of Suzhou Municipal Government, Suzhou Municipal Economic Information Commission and Suzhou Municipal Environmental Protection Bureau in September 2016, banking institutions should be evaluated for green finance performance as part of the overall evaluation of the PBoC's policy implementation and the results should be reported to competent government authorities, banking regulators, banking institutions and the public at large. Green finance evaluations include ten items, such as the contribution to the direct financing of enterprises focusing on energy efficiency and environmental protection as well as green bond issuance.

Guiyang and Gui'an New Area, Guizhou Province

In November 2015, the Finance Affairs Office of Guizhou Province released the *Notice on the Issuance of Six Action Plans for the Development of Financial Industry in Guizhou Province*, including the development of Guiyang International Financial Centre and Gui'an Green Finance Port. According to the *Three-year Action Plan (2015-2017) for the Development of Guiyang International Financial Centre*, Guiyang will strive to introduce domestic and international capital for the

development and application of green bonds and other green finance instruments and issue green bonds in 2017. Based on the *Three-year Action Plan (2015-2017) for the Development of West Financial Port, Gui'an New Area*, Guiyang will support green bond pilot programs and overseas issuance of Renminbi-denominated green bonds.

Datong, Shanxi Province

After Datong's enactment of the *2016 Action Plan for Financial Rejuvenation in 2016*, which calls for the development of green finance, Datong municipal government established a Green Finance Coordination Group and drafted the *Outline of a Master Plan for Green Finance Development in Datong*. According to the Outline, Datong should promote product innovation in developing green finance by offering green bonds and other green financial products.

Ankang, Shaanxi Province

According to the *Work Scheme for the Development of Green Finance Model City* released by the Ankang municipal government in November 2016, Ankang will issue green bonds, reduce the financing cost of green bonds, support green bond issuance through specific guarantee and credit enhancement mechanisms, and explore third-party evaluation and rating standards for green bonds and securitisation of green credit (loans).

Gansu Province

In June 2016, the Bank of Gansu created a green industry project list on the basis of the PBoC's *Green Bonds Endorsed Project Catalogue* and identified local enterprises that meet green enterprise standards.²³

Heilongjiang Province

Heilongjiang provincial government published the *Guiding Opinions on Credit in Financial Work for Energy Conservation and Environmental Protection and Guiding Opinions for Supporting Low-Carbon and Circular Economy in*

Heilongjiang. The Harbin Central Branch of the PBoC is drafting the *Implementing Opinions on Creating Green Financial Service System in Heilongjiang Province*.²⁴

Inner Mongolia

According to *Implementing Opinions on Creating Green Financial System* released by the People's Government of Inner Mongolia Autonomous Region, Inner Mongolia will create a green financial service system featuring green credit and green bonds and support green enterprises to raise funds from capital and interbank markets by issuing green bonds. The government will verify the environmental credentials of bond issuers based on the PBoC's green definitions for green bonds, and enhance green investment and financing activities of issuers. The government encourages credit rating agencies to specifically evaluate the greenness of green bond projects and the impact of environmental cost on the credit rating of issuers and will reveal such information in a separate credit rating report.

The Government of Inner Mongolia will guide pension funds, insurance funds and various other institutional investors to invest in green bonds issued by local financial institutions; encourage policy guarantee institutions to offer guarantees for corporate green bonds to reduce the financing cost of green bonds; create a green financing guarantee fund; attract international capital to invest in green bonds, green equity and other green financial assets in the autonomous region. Financial institutions and the rating agencies should take the initiative to submit their annual work updates on green finance and performance of green credit, green bonds, green insurance and other key metrics as part of the evaluation and award of the financial industry's contribution to economic and social development.

The initiatives of the provinces and cities reflect a clear policy signal for the development of green finance and mark a positive start of green bond development in China, to be followed by more incentives and instruments. In the following section, we will discuss the policy instruments that local governments may adopt on a pilot basis.

5. Challenges for growing local green bond markets

Lack of policy support specific to green bonds

Policy uncertainties may result in higher risk premiums and financing costs, and lower funding for green projects. Strong policy signals and policy framework specific to green bonds at the local level could reduce policy uncertainty, and enhance investors' confidence in investing local green bond markets. As shown in section 2, there are a number of local governments that have an already established policy framework for developing green financial systems. However, to achieve the growth of local green bond markets, these policy frameworks still need to be translated into specific plans and strategies related to green bonds.

Lack of awareness of green bond issuance opportunities

Many potential issuers have limited knowledge of the green bond issuance process

To achieve the desired scale of issuance, one challenge is to encourage issuers that currently have portfolios of suitable green projects to access the green bond market to finance their projects. There is a need for capacity building amongst issuers in the early stage of China's green bond market development. To increase interest in issuing green bonds, issuers may need to have a better understanding of the benefits and differences of green bonds compared to standard bond issuance.

Potential issuers may not be aware that green bonds can be used to refinance existing green projects or assets

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, over time, account for the largest share of the green bond market.

Awareness amongst potential issuers that green bonds can be a tool to refinance pools of existing green projects or assets, and that many issuers have immediate potential for green bond issuance may be poor. This information gap is a potential hindrance to short term market growth. For example, large existing portfolios of green loans in China's major banks (RMB 5.72 trillion; USD 920 billion) indicate immediate potential for green bonds in China provided all potential issuers are made aware of the opportunity.

External review creates additional costs for green bond issuers

External review of green bonds provides assurance on green credentials of green bonds, which increases investors' confidence in investing in green bonds. China's green bond guidelines are explicitly encouraging green bond issuers to arrange external reviews. However, this actually brings additional costs for issuers comparing to issuing vanilla bonds. With the issuance cost being the main concern for bond issuers, the need of external review may hinder issuers' interests in issuing green bonds.

Low credit ratings for some corporate green bond issuers and green projects

To be attractive to investors, the financial profile and credit worthiness must be comparable to the risk-return characteristics of non-green bonds. Some Chinese non-state owned smaller corporates may find it difficult to issue green bonds rated as investment-grade due to their low credit ratings or unrated status. Low-credit ratings may also be a challenge for green asset-backed securities at the initial stages of the market's development, due to limited credit performance history of green assets, such as solar and wind power assets.

Lack of a concrete long-term pipeline of green projects to facilitate scaling green bond issuance over time

In the short-term, the challenge is to identify which projects within established and announced infrastructure project pipelines qualify as green. For example, in December 2015, NRDC announced a list of infrastructure projects for public-private partnerships, but it's not yet clear which of these planned infrastructure projects can be financed through green bonds.

One future challenge for local governments in China is to integrate the identification of green assets earlier on in the process of infrastructure project pipeline development. This would help improve investor transparency around upcoming green investment pipelines and help ensure that a sufficient amount of green infrastructure projects are developed to meet environmental targets.

The need to increase green bond investment

Institutional investor demand for green bonds is strong; currently there is greater demand than suitable investment opportunities available. However, the majority of the proven investor demand is in developed countries. The institutional investor base and asset allocation approaches in emerging economies are less mature.

Green investment in China is still at the early stage of development and the majority of green investors are public fund managers. Among the 97 major fund managers in China, only 23 funds have some investment in assets/projects related to green, low carbon, environmental protection and/or social responsibility.

As the issuance of green bonds into the market grows over time, investor demand must continue to grow to keep pace with the expanding supply of green bond deals. Demand-side support from the public sector in the early stages of market development is therefore valuable.

6. Policy instruments at the disposal of local governments

Local governments have a multitude of policy instruments at their disposal to spur the development of green bonds - being consistent with central government requirements and encouraged by stock exchanges. Policy support from central government includes:

- Guidelines for Establishing the Green Financial System promulgated by the PBoC and six other ministries:** to encourage and support qualified localities to steer private investments towards green industries through such means as green guarantee mechanisms and green development funds; support the financing of local mid-and long-term green projects with stable cash flow by the green bond market; support the inclusion of local projects with significant environmental benefits into the green project pipeline and create financing conditions through various channels such as listing at national assets trading centres; support international financial institutions and foreign-funded institutions to engage in green investments in cooperation with local governments.
- PBoC's announcement on green financial bonds:** Encourage competent authorities and local governments to issue preferential policies to support the development of green financial bonds.
- NDRC's Guidelines for Issuing Green Bonds:** Encourage local governments to support green bond issuance and green project implementation through investment subsidies, guarantee subsidies, interest discounting and public fund capital injection; encourage local governments at or above municipal level to create local green bond guarantee funds to provide guarantee for green bonds issuance.
- CSRC's Guidelines for Supporting Green Bond Development:** Encourage and support local governments to facilitate the development of green corporates and green bonds through such means as interest discounting, fiscal subsidies and the creation of bond investment funds for green corporates. CSRC's regional offices should take the initiative to work with local governments in steering private capital towards green projects.

Figure 9: Policy instruments at the disposal of local governments to encourage green bonds

Category	Policy instrument	Description
Policy signal	Specific supporting document	Develop specific documents encouraging green bond issuance (or green finance development)
	Task force	Set up a dedicated task force encouraging green bonds (or green finance) development
	Pilot programme	Initiate green bonds pilot programmes for the whole or part of the region
Supporting facilities	Fast track	Create a fast track for approving green bond issuance
	Project pipeline	Create a list of projects eligible for green bond financing
	Green bonds coalition	Establish green bonds coalition (between regulators, intermediaries and evaluation agencies)
	Trainings and forums	Host green bond forums, trainings or project match-making meetings
	Stimulate the demand for green financing	Push the green transition of the local economy, and stimulate the demand for green financing
Financial incentives	Cost sharing	Develop cost sharing mechanisms through issuance subsidy, guarantee subsidy, and interest discount
	Credit enhancement	Provide credit enhancement through guarantee fund, debt-loan portfolio and special construction fund portfolio
	Tax benefits	Provide tax deduction or exemption to issuers and/or investors based on central government policy framework
	Encourage private investments	Encourage private investors within and outside the jurisdiction to invest in green bonds
Recognition	Recognition	Recognise green bond issuers and other participating institutions
	Media coverage	Encourage media coverage of green bonds and green projects
	Review and award	Include green finance pioneers into other review and award programs

- **Notice on Carrying out the Pilot Program of Green Corporate Bond Issuance for Green Corporates released by Shanghai Stock Exchange and Shenzhen Stock Exchange:**

Encourage competent regulatory authorities and local governments to introduce preferential policies to support the development of green corporates and green bonds.

In general, the policy instruments at the disposal of local governments may fall into four categories: policy signals, supporting facilities, financial incentives and recognition.

6.1 Send policy signals

Sending policy signals is the most convenient way for local governments to foster a green bond market. This includes creating a green bonds steering group or coordination group led by executive leadership in the municipal government (or creating a green finance steering group with a special task force on green bonds), issuing local guidelines on green bonds (or directives on green finance) and initiating green bond pilot programmes.

At present, cities such as Huzhou, Quzhou and Datong have all created task forces on green finance led by senior municipal government officials. Other local governments - including Beijing, Guangdong, Qinghai, Huzhou, Gui'an New Area and Datong - have formulated and released relevant directives and development plans. However, existing task forces or directives are designed for green finance in general rather than focusing solely on green bonds. In sending policy signals, local governments should put greater focus on green bond issuance.

Reference case 1: Quzhou city in Zhejiang province sets up Green Finance Steering Group

To implement the work set by the "National Pilot of Green Finance Reform" and to establish the "Provincial Pilot Programme on Comprehensive Green Finance Reform", and to promote the development of green industry and to achieve ecological civilisation, the Quzhou municipal government has decided to set up a Green Finance Steering Group. The group leads and coordinates the city's work on green finance innovation and reform.

Specifically, its responsibilities include: developing and implementing green finance related policies, systems and planning programmes; identifying eligible projects; organising workshops; establishing evaluation metrics and implementing annual evaluations on green finance innovation and reform. The steering group's office is set up at the PBoC's municipal branch, which is made up of six working groups including: integrated group, green bank group, green insurance group, green securities group, green bond group, and green fund group. The composition and tasks of the working groups are subject to the guidance from the working group.

Reference case 2: Zhongguancun Administrative Committee seeks pilot enterprises of green bonds

On April 6, 2016, Zhongguancun Administrative Committee issued the following notice: "To support the development of Zhongguancun-based enterprises, the Administrative Committee will initiate pilot programmes of bond financing for innovation / entrepreneurship, and green bonds. The pilot programmes will integrate relevant financial service resources, provide policy guidance and offer support in the design, rating, credit enhancement, approval and underwriting of corporate bonds products," effectively increasing the scale of bond financing and reducing its cost to expedite the rapid development of Zhongguancun-based tech firms. Firms may now apply to join the first group of pilot enterprises for issuing green bonds or bonds financing innovation / entrepreneurship."

6.2 Provide supporting incentives and create local platforms

Local governments may offer supporting incentives to green bond issuers, the most common of which is the creation of a fast track for green bond issuance approval. For instance, in 2016, it took only three work days for Beijing Municipal Commission of Development & Reform (BMCDR) to assess and approve the issuance of “16 BAIC Green Bond” - the first green bond in Beijing. According to BMCDR, the rapid process of issuance was made possible by adequate prior communication, training and coordination.

Supporting facilities for green projects - such as special support funds, fast track and green industrial zones - will spur the development of green industries and stimulate financing demand.

To facilitate green bond issuance, local governments can also establish mechanisms for connecting issuers with other stakeholders, for exploring opportunities of green bond issuance. This could be done through creating green bond project pipelines and offering specific training and promotion; creating a green bond alliance that links issuers with various stakeholders (as Huzhou of Zhejiang Province did); hosting forums, training sessions and project match-making meetings.

In medium/long term, local governments can also make efforts to push the green transition of local economies, increasing the demand for green projects and green financing instruments. The need for the green economy transition will potentially bring more opportunities to “green” the existing assets and/or projects, or require more green projects to be developed, which could be financed through green bonds. For instance, the vision of “transferring coal city into the green city” in Datong (Shanxi province), will significantly drive the development of green finance there.

Reference case 3: Beijing Municipal Bureau of Financial Work inaugurated the Green Bond Alliance

On July 14, 2015, 16 agencies including Beijing Municipal Bureau of Financial Work, the PBoC Department of Business Management and Beijing Energy Conservation and Environmental Protection Centre (BEEC) jointly signed the MoU of Green Bond Alliance Sponsors, which specifies their respective scopes of work in promoting green bond issuance by Beijing-based firms in domestic and overseas capital markets.

Shougang Fund Investment Company, Beijing Water Investment Centre, Beijing OriginWater Technology Co., Ltd. and Tus-Holdings Co., Ltd. worked with HSBC, ICBC and some other financial institutions to design green bond issuance scheme and plan to seek direct financing from overseas capital markets (London Stock Exchange and Hong Kong Stock and Futures Exchange) to support the construction of Shougang’s old factory site, improve water management and develop new energy projects.

Reference case 4: Green Infrastructure Investment Coalition (GIIC)

Launched at the 2015 UN Climate Conference as a platform consisting of investors, multilateral development banks, financial service institutions and potential issuers, the GIIC facilitates match-making between issuers and investors for green projects. It is running by CBI in partnership with ICMIF, LTIIA, PRI and UNEP Inquiry, which is dedicated to reducing investment barriers to green infrastructure.

6.3 Introduce financial incentives

With cost and interest rates being the top concerns of bond issuers, financial incentives to address them will greatly encourage the issuance of green bonds. For instance, the government may help alleviate the additional cost of third-party evaluation and certification for green bond issuance - which is currently borne by issuers.

Local governments may:

1. reduce issuance cost by offering issuance subsidies (to issuers, underwriters or third-party evaluation and certification agencies), guarantee subsidies or interest discounts;

2. provide credit enhancement by creating guarantee funds, encouraging debt-loan portfolio, special construction funds and green bond portfolios to indirectly reduce issuance cost;

3. offer issuers and investors tax benefits based on the central government policy framework. For example, according to the existing policies in China, investments in sovereign bond, municipal bond and bond issued by policy banks are tax exempted; investments in bonds issued by China Railways could get 50% discount on income tax on interests.

4. encourage local or non-local investors to invest in green bonds issued within their jurisdictions. Most of above-mentioned financial incentives are specified in the NDRC’s Guidelines for Issuing Green Bond and the CSRC has also endorsed the combination of interest rate discount, subsidies, creation of green corporate bond investment funds and other preferential treatment to support the development of green corporate bonds.

Actions by local governments are yet to follow. Futian District in Shenzhen City has made a big step by announcing that there will be 2% interest subsidy for green bonds issued by corporates within the jurisdiction. Among early movers, Qinghai provincial government promised to grant “tax exemption for green bonds” in its *Implementing Opinions for Green Finance Development*, albeit without details; Beijing utilised debt-loan portfolio for BAIC’s green bonds jointly underwritten by Haitong Securities and ICBC to enhance fund pooling; Inner Mongolia announced subsidies and guarantees, aiming to steer institutional investors such as pension fund and insurance fund to invest in locally issued green bonds.

Internationally, various financial incentives are being brought to the market by international institutions, national governments, development financing institutions and stock exchanges to further stimulate the development of green bond markets.

The Monetary Authority of Singapore (MAS) has announced that a Green Bond Grant scheme will be launched in June 2017, which aims to offset 100 percent of the cost of obtaining an external review for green bonds for qualifying issuances, up to S\$100,000 per issuance. The scheme applies to green bonds to be issued and listed in Singapore with a minimum size S\$200 million and tenure of at least three years.¹⁶

The BNDES, Brazil’s giant national development bank, have established USD 144m Sustainable Energy Fund dedicated for investing in green bonds. The BNDES Fund is intended to lead private sector green investment and spur the growth of the domestic Brazilian green bond market.

Netherlands has been implementing the Green Fund Scheme for the last two decades. The scheme has successfully motivated individual investors to invest in green projects, which could be applied to green bonds (see more details on reference case 8).

Reference case 5: Futian District in Shenzhen City provides 2% interest discount for green bond issuance

At the 11th China (Shenzhen) Private Equity Funds Summit held on 18th March, He Jie, the deputy director of the Central Economics Committee of the Revolutionary Committee of The Chinese Kuomintang and the Deputy Mayor of Futian District, indicated that Futian will promote the issuance of green bonds and bonds financing innovation and entrepreneurship. He Jie addressed that “Futian District Government will provide 2% interest subsidy for corporate green bonds and 1% for central organisations.

Similar incentives for traditional bond financing are nothing new. In 2012, some local governments offered interest rate discounts for the private offering of SME bonds. For instance, Shenzhen municipal government offered an interest rate discount of 1% for the first issuance year to the top ten private bond issuers; Beijing Zhongguancun Administrative Committee offered a 30% discount for the carrying interest rate of privately offered bonds from Zhongguancun-based firms. In 2016, Hebei provincial government formulated the *Measures for the Administration of Asset Securitisation Incentives* to encourage financing from asset securitisation. Given these examples, more incentives around green bonds are expected.

Reference case 6: Measures for the Administration of Asset Securitisation Incentives, Hebei Province

The *Measures* stipulates that any local financial institution that successfully issues securitised products may be offered a monetary reward of no more than 1% of the issuance amount; any enterprise that successfully issues as part of a special asset support program or special asset management plan may be offered a monetary reward of no more than 1% of the issuance amount; any enterprise that successfully issues asset-backed notes may be offered a monetary reward of no more than 1% of the issuance amount; an enterprise that successfully issues asset-backed securities in inter-institutional quoting and service system for privately offered products may be offered a monetary reward of no more than 1% of the issuance amount; any of the top five underwriting institutions such as securities, investment fund and banking institutions that successfully issue asset securitisation products (ranked by the cumulative amount of issuance within the year of the cash reward) may be offered an additional monetary reward of 50% of the cash reward for the largest asset securitisation product issued.

Reference case 7: Credit enhancement

In the early stages of the market, the public sector may improve the risk-return profile of green bonds using credit enhancement instruments, including guarantees, subordinated bonds or equities, insurance and policy risk insurance. There are existing examples in other markets:

The US Overseas Private Investment Corporation (OPIC) provides green bond issuers with credit enhancement services: OPIC's Green Guaranties support the funding of certificates of participation. They labelled the certificates in adherence with the Green Bond Principles as green. In 2014, OPIC issued its first-ever Green Guaranties to eligible U.S. investors in domestic debt capital markets to support Luz del Norte solar project in Chile.

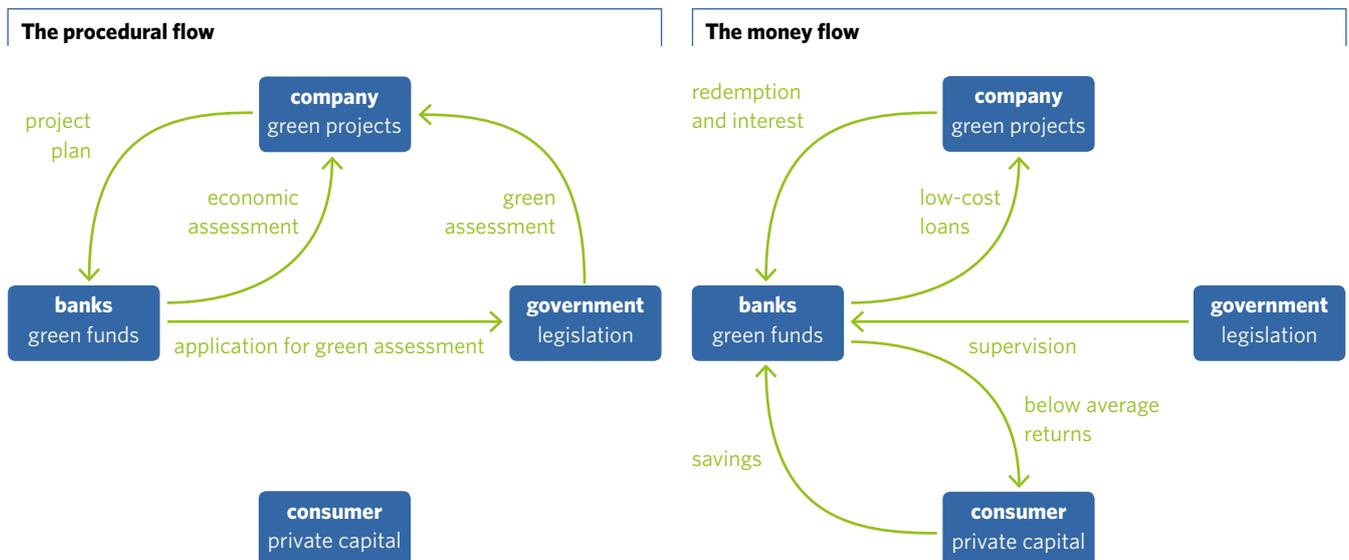
By providing these Green Guaranties, OPIC joins other public and private sector institutions in supporting climate-friendly investments, which include green bonds.³¹

In Europe, existing credit enhancement mechanisms for infrastructure construction such as the Project Bond Initiative may also be applied to green bonds. Under the Project Bond Initiative, the European Investment Bank (EIB) will be able to provide eligible infrastructure projects with Project Bond Credit Enhancement (PBCE) in the form of a subordinated instrument - either a loan or contingent facility - to support senior project bonds issued by a project company (Senior Bonds).³²

Reference case 8: The Green Funds Scheme for banking industry in Netherlands³³

The Green Funds Scheme was launched by the Dutch government in 1995. Currently, most Dutch banks have introduced green funds. The funds are mainly invested by individual investors in the form of deposit or low-risk investments. Banks promise that 70% of the funds will be invested in green projects, however, the return is 1% lower than the market average. While it is beneficial to owners of green projects, it reduces the profits of individual investors. To address this, the Dutch government provides 2.5% discount in tax payment as an incentive for individual investors who have participated in the green fund. In 2010, the Dutch government received a total of 150 million euros less in tax revenue, however, it leveraged 6 billion euros of private capital to invest in green projects.

The Green Funds Scheme in Netherlands



6.4 Recognition and awards

Local governments may also encourage green bond issuers and participating institutions through recognition and awards - either by granting an honorary title or award or encouraging media coverage. Recognition and awards will bring issuers reputational benefits and promote green bonds extensively as an innovative product. The Top Green Securities Companies first released by the Securities Association of China (SAC) on November 4, 2016 is an excellent example.

Furthermore, local governments may incorporate green bonds into other regular review processes and awards to increase incentives. According to the *Implementing Opinions on Green Finance Development* released by Qinghai provincial government, the performance of financial institutions in the province with respect to green credit, green bonds and green insurance will be used as an important basis for the evaluation and reward of their contribution to local social and economic development and use of monetary policies. Similar measures have also been adopted by Inner Mongolia.

Reference case 9: SAC's list of Top Green Securities Firms

On November 4, 2016, the Securities Association of China (SAC) released the first list of Top Green Securities Firms, the first green list of the financial industry, identifying securities firms as chief underwriters that rank the highest in terms of the number and amount of green bonds and green asset securitisation products by the end of Q3. According to SAC, given the nature of green bonds and green asset securitisation products as products relating to public interest, the "Top Green Securities Firms" list aims to urge securities companies to increase their CSR awareness" and "SAC will continue supervising the securities firms in their CSR performance, promoting the concept of responsible investment and guiding securities firms to contribute to green investments on their own initiative." According to the 21st Century Business Herald, SAC and Asset Management Association of China (AMAC) will release lists of top companies for the issuance of innovation / entrepreneurship bonds and green investments, which will serve as an important measure of CSR performance for securities and investment fund companies.

Reference case 10: Green Bond Awards

The Climate Bonds Initiative confers an annual green bond awards ceremony each year since 2016. Leading global stakeholders such as banks, firms, local governments and central banks are rewarded for their contribution to global green bond markets. The Awards also raise the market's awareness of information and experience relating to green bonds.

7. Conclusions and recommendations

2016 was a year of rapid development for China's green bond market. Green bond issuance was unevenly distributed due to discrepancies in both economic prowess and the urgency of economic restructuring for most bond issuers located in China's prosperous coastal regions in the east, relatively few in central and western regions and none in the northeast.

At the local level, some provincial and municipal governments stepped up efforts to develop green finance, including green bonds, green credit and green insurance. Most of these formulated special documents to set the objectives and supporting measures for the development of green finance and green bonds; a few even set up special task forces responsible for the detailed implementation and coordination of green finance plans.

Policy instruments at the disposal of local governments to propel the development of local green bond markets generally fall into four categories: policy signals, supporting facilities, financial incentives and recognition and awards. While central government ministries, commissions and exchanges have issued documents that explicitly encourage local governments to introduce preferential policies for green bonds, most provinces and municipalities are hesitant to take actions. A few provinces and municipalities responded by issuing special documents as policy signals, without offering substantive facilities, financial incentives and recognition and awards schemes.

It is expected that the development of China's green bond market will be more readily supported by local governments. All stakeholders - including central and local governments, the private sector and the public at large - may make greater contributions to the development of green bonds at local government level by taking the following recommended actions:

First, the central government ministries, commissions and exchanges may take further actions to encourage local governments to support green bonds by adopting relevant policy measures. Local pilot programs of green finance launched by the central government will serve as great examples for more provinces to follow.

Second, local governments that already made explorative efforts regarding green bonds may release more explicit policy signals and in particular, develop specific agendas on green bonds. Policy instruments identified in this report are also recommended.

Third, local governments with greater financial resources may offer financial incentives to bond issuers; while others may focus on policy signals, facilities and recognition and awards.

Fourth, for the many provincial and municipal governments that have yet to incorporate green finance and green bonds into their agenda, more preliminary research and benchmarking is recommended before formulating action plans and promotion of green bonds in light of local conditions.

Fifth, regulators, industry associations and academic institutions may also assist in this effort and gain more experience on the policy instruments at the disposal of local governments to promote green bonds.

Sixth, the media and industry associations may enhance communication and recognize "top green firms" to call upon more local governments to introduce policy measures for the promotion of green bonds.

Appendix 1: Regulatory system of the Chinese bond market

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

*Mostly SOEs

PBoC People's Bank of China
 CBRC China Banking Regulatory Commission
 NDRC National Development and Reform Commission
 NAFMII National Association of Financial Market Institutional Investors (directed by PBoC)
 CSRC China Securities Regulatory Commission (*stock exchanges are regulated by CSRC)

Appendix 2: Green bonds issued in Beijing, 2016

Green bonds issued in Beijing, 2016				
Issuer	Name of bond	Size (RMB bn)	Type of bond	
BAIC Motor Group	16 BAIC Green Bond 01	1.25	Enterprise bonds	
BAIC Motor Group	G16 BAIC 1	1.25		
State Grid Corporation of China	16 State Grid Bond 01	5.00		
State Grid Corporation of China	16 State Grid Bond 02	5.00		
BJ SPC Environmental	16 SPC Green Bond	0.695		
BJ SPC Environmental	16 SPC G1	0.395		
Concord Wind Power Investment	16 Concord Wind MTN001	0.20	Debt financing instruments	
BJ Enterprises Water Group	16 BEWG GN001	2.80	Corporate bonds	
Huaneng Renewables	G16 HN Renewables 1	1.14		
CECEP	G16 CECEP 1	1.00		
CECEP	G16 CECEP 2	2.00		
China Three Gorges	G16 Three Gorges 1	3.50		
China Three Gorges	G16 Three Gorges 2	2.50		
BJ Enterprises Water Group	G16 Bei Y1	2.80		
China Datang Renewables	G16 DT Renewables 1	1.00		
CECEP	G16 CECEP 3	1.00		
CECEP	G16 CECEP 4	1.00		
China Datang Renewables	G16 DT Renewables 2	0.50		
Poten Environment	G16 Poten	0.30		
China Datang Renewables	G16 DT Renewables 3	0.50		
BJ Enterprises Water Group	G16 BEWG 1	0.70		
Export-Import Bank of China	16 Exim Green Bond 01	1.00		Financial bonds
Agricultural Development Bank of China	16 ADBC Green Bond 22	6.00		

Appendix 3: Top 15 projects by the amount of investment from non-financial bonds, 2016

Top 15 projects by the amount of investment from non-financial bonds, 2016			
Name of bond	Name of project	Amount of investment (RMB bn)	Type of bond
G16 Three Gorges 1 G16 Three Gorges 2	Wudongde Hydropower Project (located in Huidong County of Sichuan Province and Luquan County of Yunnan Province)	5.00	Clean energy
16 Wuhan Metro GN002	Wuhan Rail Transport Project	2.00	Clean transport
16 State Grid Bond 01 16 State Grid Bond 02	Inner Mongolia Xilingol League - Shandong 1,000kV UHV AC Power Transmission and Transformation Project	1.80	Energy conservation
16 BAIC Green Bond 01	Technical Upgrade and Capacity Expansion at Zhuzhou Site, Hunan province	1.50	Clean transport
16 State Grid Bond 01 16 State Grid Bond 02	Gansu Jiuquan - Hunan 4800 kV High-voltage DC Project	1.40	Energy conservation
16 State Grid Bond 01 16 State Grid Bond 02	Ningxia East - Zhejiang Shaoxing 4800kV UHV DC Power Transmission and Transformation Project	1.20	Energy conservation
G16 HN Renewables 1	Wind Power and PV Generators Replacement	1.14	Clean energy
G16 Bei Y1	Liangshui River (Majuqiao Gate - North Canal Section) Rehabilitation Project	1.094	Pollution treatment Ecological protection and climate change adaptation
G16 BEWG 1	Luoyang Water System Integrated Rehabilitation Demonstration Project	0.70	Pollution treatment Ecological protection and climate change adaptation
16 BEWG GN001	Linqing Auxiliary Works for Phase 1 Project of South-North Water Diversion East Line Project	0.678	Resource conservation and recycling
G16 Bei Y1	Beijing Liangshui River Comprehensive Water Environment Improvement Project	0.654	Pollution treatment Ecological protection and climate change adaptation
16 State Grid Bond 01 16 State Grid Bond 02	West Inner Mongolia - Tianjin South 1,000kV UHV AC Power Transmission and Transformation Project	0.60	Energy conservation
G16 CECEP 3 G16 CECEP 4	Xinjiang Hami Jingxia Wind Farm Project	0.516	Clean energy
G16 Three Gorges 1 G16 Three Gorges 2	Xiluodu Hydropower Plant (located in Leibo County of Sichuan Province and Yongshan County of Yunnan Province)	0.50	Clean energy
G16 Three Gorges 1 G16 Three Gorges 2	Xiangjiaba Hydropower Plant (located in Yibin of Sichuan Province and Shuifu County of Yunnan Province)	0.50	Clean energy

Appendix 4: List of green bonds issued in various localities, 2016

List of green bonds issued in various localities, 2016			
Date of issuance	Location of issuer	Issuer	Name of bond
Jan. 27, 2016	Shanghai	Shanghai Pudong Development Bank	16 SPDB Green Financial Bond 01
Jan. 28, 2016	Fuzhou, Fujian	China Industrial Bank	16 CIB Green Financial Bond 01
Mar.10, 2016	Qingdao, Shandong	Bank of Qingdao	16 BQD Green Finance 01
Mar.10, 2016	Qingdao, Shandong	Bank of Qingdao	16 BQD Green Finance 02
Mar.25, 2016	Shanghai	Shanghai Pudong Development Bank	16 SPDB Green Financial Bond 02
April 6, 2016	Beijing	Concord Wind Power Investment	16 Concord Wind MTN001
April 22, 2016	Beijing	BAIC Motor Group	16 BAIC Green Bond 01
April 22, 2016	Beijing	BAIC Motor Group	G16 BAIC 1
May 23, 2016	Jiaxing, Zhejiang	Zhejiang Jiahua Energy Chemical Industry Co., Ltd.	G16 Jiahua 1
May 24, 2016	Urumqi, Xinjiang	Xinjiang Goldwind Sci & Tech Co., Ltd.	16 Goldwind Sci & Tech GN001
May 24, 2016	Urumqi, Xinjiang	Xinjiang Goldwind Sci & Tech Co., Ltd.	16 Goldwind Sci & Tech GN002
July 8, 2016	Beijing	Huaneng Renewables	G16 HN Renewables 1
July 12, 2016	Nanchang, Jiangxi	Jiangxi Bank	16 JX-Bank Green Finance 01
July 12, 2016	Nanchang, Jiangxi	Jiangxi Bank	16 JX-Bank Green Finance 02
July 14, 2016	Shanghai	Shanghai Pudong Development Bank	16SPDB Green Financial Bond 03
July 14, 2016	Fuzhou, Fujian	China Industrial Bank	16 CIB Green Financial Bond 02
July 18, 2016	Shanghai	New Development Bank	16 NDB Green Financial Bond 01
Aug.1, 2016	Beijing	BJ Enterprises Water Group	G16 BEWG 1
Aug.4, 2016	Nanchang, Jiangxi	Jiangxi Bank	16 JX-Bank Green Finance 03
Aug.4, 2016	Nanchang, Jiangxi	Jiangxi Bank	16 JX-Bank Green Finance 04
Aug.16, 2016	Beijing	CECEP	G16 CECEP 1
Aug.16, 2016	Beijing	CECEP	G16 CECEP 2
Sept.22, 2016	Beijing	CECEP	G16 CECEP 3
Sept.22, 2016	Beijing	CECEP	G16 CECEP 4
Aug.26, 2016	Beijing	China Three Gorges	G16 Three Gorges 1
Aug.26, 2016	Beijing	China Three Gorges	G16 Three Gorges 2

List of green bonds issued in various localities, 2016 (continued)

Date of issuance	Location of issuer	Issuer	Name of bond
Sept.12, 2016	Beijing	Beijing Enterprise Water Group	G16 BEWG Y1
Sept.14, 2016	Beijing	China Datang Renewables	G16 DT Renewables 1
Sept.26, 2016	Beijing	China Datang Renewables	G16 DT Renewables 2
Oct.19, 2016	Beijing	China Datang Renewables	G16 DT Renewables 3
Oct.11, 2016	Beijing	Poten Environment	G16 Poten
Oct.20, 2016	Beijing	State Grid Corporation of China	16 State Grid Bond 01
Oct.20, 2016	Beijing	State Grid Corporation of China	16 State Grid Bond 02
Oct.25, 2016	Wuhan, Hubei	Wuhan Metro Group	16 WH Metro GN002
Oct.28, 2016	Shenzhen	GEM Co., Ltd.	16 GEM Green Bond
Oct.28, 2016	Shenzhen	GEM Co., Ltd.	16 GEM G1
Oct.28, 2016	Beijing	BJ SPC Environmental	16 SPC Green Bond
Oct.28, 2016	Beijing	BJ SPC Environmental	16 SPC G1
Oct.31, 2016	Beijing	Beijing Enterprises Water Group	16 BEWG GN001
Nov.7, 2016	Kunming, Yunnan	Yunnan Provincial Energy Investment Group Co., Ltd.	YEIG Green PPN
Nov.15, 2016	Fuzhou, Fujian	China Industrial Bank	16 CIB Green Financial Bond 03
Nov.18, 2016	Shanghai	Bank of Communications	16 Bankcomm Green Financial Bond 01
Nov.18, 2016	Shanghai	Bank of Communications	16 Bankcomm Green Financial Bond 02
Nov.22, 2016	Qingdao, Shandong	Bank of Qingdao	16 BQD Green Finance 03
Nov.22, 2016	Qingdao, Shandong	Bank of Qingdao	16 BQD Green Finance 04
Nov.29, 2016	Hangzhou, Zhejiang	DunAn Holding Group Co., Ltd.	16 DunAn GN002
Dec.5, 2016	Beijing	Export-Import Bank of China	16 Exim Green Bond 01
Dec.6, 2016	Urumqi, Xinjiang	Bank of Urumqi	16 UCCB Green Finance 01
Dec.7, 2016	Nanjing, Jiangsu	Jiangsu Guoxin Investment Group Ltd.	16 JSGX GN003
Dec.9, 2016	Nantong, Jiangsu	Nantong Rural Commercial Bank	16 NTRCB Green Financial Bond
Dec.19, 2016	Shantou, Guangdong	Guangdong Huaxing Bank	16 GH Bank Green Financial Bond
Dec.21, 2016	Beijing	Agricultural Development Bank of China	16 ADBC Green Bond 22

Appendix 5: List of implemented policy instruments to encourage green bonds at various localities, 2016

List of implemented policy instruments to encourage green bonds at various localities, 2016

Policy instruments		Beijing	Guangdong	Qinghai	Huzhou, Zhejiang	Quzhou, Zhejiang	Xiamen, Fujian	Suzhou, Jiangsu	Guiyang, Guizhou	Gui'an, Guizhou	Datong, Shanxi	Ankang, Shaanxi	Gansu	Heilongjiang	Shanghai	Inner Mongolia
Policy signals	Special document	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Special task force				●						●				●	
	Pilot program of green bonds	●														
Facilities	Fast track															
	Project list				●								●			
	Green bond alliance	●														
	Forum, training or matchmaking meeting															
	Stimulate financing demand															
Financial incentives	Cost sharing			●			●									●
	Credit enhancement			●			●					●				●
	Tax deductions															
	Investment guidance															●
Recognition Rewards awards	Recognition															
	Media Coverage															
	Inclusion into review			●				●								●

Appendix 6: Types of credit enhancement instruments at the disposal of the public sector

Public sector credit enhancement instruments		
Type	Description	Example
Guarantees	<p>The public sector can provide partial-risk guarantees at the bond issuance stage (often called “wrappers”). This implies they lend their credit rating to the project. Partial guarantees can also be applied to contingent cost overrun facilities, a structure that has been used in the oil sector.</p> <p>In addition to credit guarantees, liquidity guarantees can be provided to facilitate the extension of debt duration. Liquidity guarantees can be structured so that the public sector guarantees payment of the outstanding debt payments in the latter years of debt duration beyond what the institutional investors are willing to offer without guarantee.</p>	<p>OPIC offers Certificates of Participation, a bond wrap with US government guarantee. In 2014, they started marketing some of the Certificates of Participation as green. While these Certificates had always been green, OPIC now added the green label. The first Green Guarantees were issued in September 2014, and they have issued several in 2015.</p>
Subordinated debt or equity	<p>Public entities can invest in a project or portfolio, and take the position of accepting loss before private institutional investors.</p> <p>By the public taking a lower position in the repayment pecking order (a subordinated equity or debt position), the parts of the investment that sits above the public entity in this pecking order (senior equity or debt) is protected from losses to a certain extent, which makes this part of the investment lower risk and can be issued at a higher rating.</p>	<p>The European Investment Bank’s Project Bonds Initiative provides first loss for bond issuance to address the policy objectives of the EU’s Connect Europe program.</p>
Insurance	<p>The monoline insurers guarantee payment of interest and principal in the event of default. While the use of monoline insurance is more limited after the financial crisis than the other risk-reducing tools in the climate-friendly space, some initiatives are emerging.</p>	<p>A monoline venture for green bonds specifically, AMF, is currently being developed under the Finance for Resilience Initiative (FiRe), although it is not yet operational.</p>
Policy risk insurance	<p>A policy risk insurance facility would be valuable in reducing policy risks, which are a major concern for investors. The policy support put in place for green projects, such as feed-in-tariffs for renewable energy, itself introduces risk that the policy support will be removed. This is risk created by the public sector, and they are consequently best placed to mitigate the risk.</p>	<p>OPIC offers political risk insurance that includes protection against changes in feed-in-tariffs for renewable energy.</p>

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14. Financial bonds refer to bonds issued by financial institutions in China. Corporate bonds refer to bonds issued by corporates under the rules set by China Securities Regulatory Commission (CSRC) in China. Enterprises bonds refer to bond issued by corporates under the rules set by the National Development and Reform Commission (NDRC) in China. See more details in Appendix 1.
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