Invesco Fixed Income Investment Insights

China green bonds: A sustainable asset class

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China is shifting the green bond market with its increasing utilization of "green financing". After launching its first green bond in 2015, it is now the largest issuer in the world. Invesco's Ken Hu provides background and context to the rapid rise of green bonds and how environmental, social and governance (ESG) investment strategies play a role.

The global green bond market has developed rapidly over the past decade, providing investors access to an asset class that satisfies responsible investing and ESG mandates and is intended to deliver competitive returns. Facing an imperative to address pollution concerns and finance sustainable development under its "One Belt, One Road" policy, China's appetite for green bonds should continue to grow.

What are green bonds?

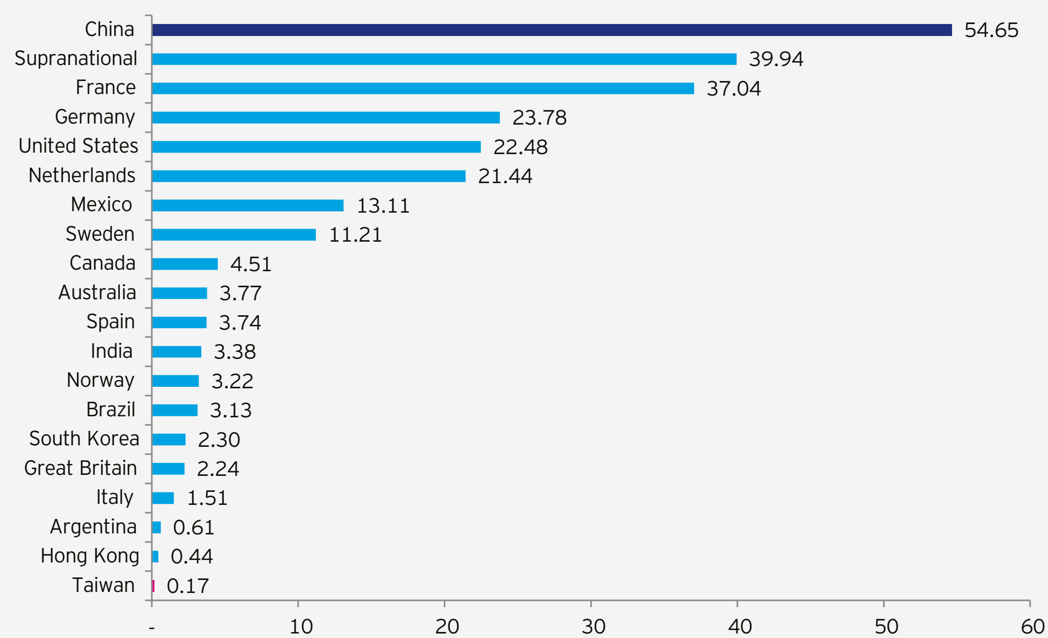
There is no single definition for what qualifies as a green bond. It is commonly accepted, however, that the issuer will use bond proceeds to support projects that improve the environment. Such projects include flood and watershed management in China, mass transit development in Colombia and efficient irrigation use in Tunisia.

The world's first green bond was issued by the European Investment Bank in 2007 under the banner of a €600 million Climate Awareness Bond. Since then, more than 40 countries and supranational organizations have combined to issue more than 1,100 green bonds and US$270 billion in total issuance.[1] The emergence of green bonds as a new asset class comes amid growing support for responsible investment and ESG evaluation, screening and integration. The Paris Agreement, which went into effect in November 2016, further underscores the global commitment to addressing environmental concerns.

China's green bond market started to take shape in 2015 after the People's Bank of China (PBOC) unveiled guidelines to incorporate the new asset class into the country's financial system. The National Development and Reform Commission (NDRC) and China Securities Regulatory Commission (CSRC) have also each released guidance on green bond standards. The combined focus has helped spur further regulatory advancements like the launch of benchmark indices that track the performance of Chinese green bonds. The benchmarks are synchronously displayed in both the Mainland and Europe following a partnership between the Shanghai and Luxembourg stock exchanges.

Despite being a relatively new entrant in the global green bond market, China has already assumed a leading role. In 2016, China claimed seven out of ten of the year's largest green bonds and raised US$33.7 billion in issuance, accounting for more than a third of the world total. To date, it exceeds the total issuance of any other country, including the combined amount from supranational organizations like the European Investment Bank, International Finance Corporation and African Development Bank (Figure 1). China has issued nearly US$20 billion worth of green bonds in 2017 so far and is set to be the world leader once again.

Figure 1
Amount of green bonds issued (USD billions)

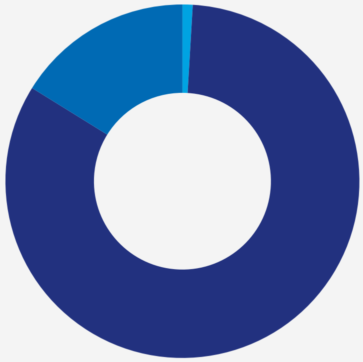


Source: Bloomberg, Invesco. Issuances in all currencies from 1st January 2006 to 17th October 2017 are included.

1. Bloomberg, data in USD as at 10 October 2017.

China's onshore bond market accounts for more than 80% of green issuance in the country (Figure 2). The international bond market has also seen increasing issuance by Chinese entities, with a combined US$8.3 billion outstanding in green bonds.

Figure 2
Breakdown of China green bonds by market (USD millions)



	USD millions
Panda	479
Onshore	42,519
Offshore	8,290

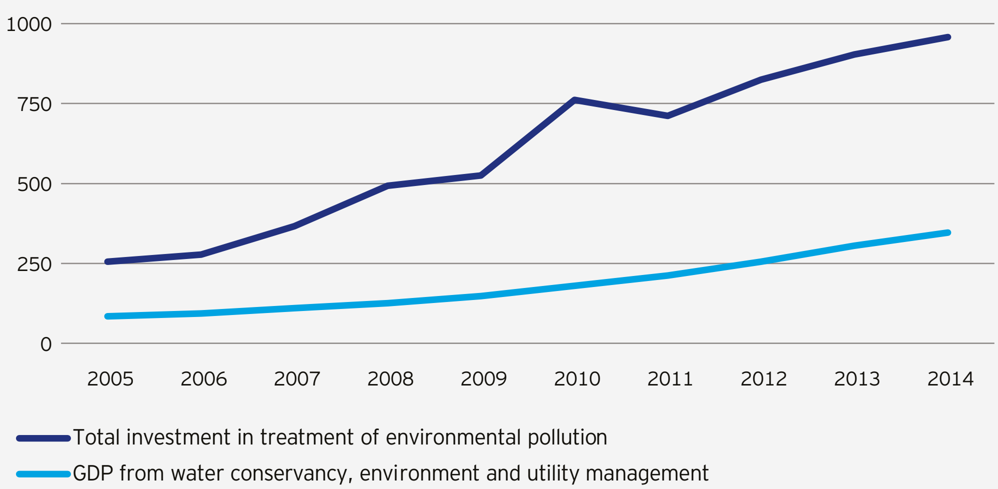
Source: Bloomberg, Invesco. Outstanding amount as of 10th October 2017.

Elsewhere in Asia-Pacific, Australia has raised US$2.1 billion this year, while issuances in Singapore and India have amounted to US$1.1 billion and US$560 million respectively.

China's increasing appetite for green finance
Years of robust economic growth in China on the back of resource-heavy industries like manufacturing, petrochemicals and mining have given rise to pollution. In response, authorities have begun addressing environmental concerns and promoting sustainable power sources. Most of the country's power is currently sourced from fossil fuels, however the government is targeting 20% from renewable sources by 2030. China is already the world leader in electric cars, claiming more than 40% of the 753,000 plug-in vehicles sold in 2016.[2] Authorities target 5 million new-energy vehicles to be in service by 2020.

China has made sustainable development a priority as it looks to reverse environmental challenges. Investment in pollution treatment has increased from approximately RMB100 billion in 2000 to just under RMB900 billion in 2015. The contribution to GDP from the water conservancy, environment and utility management sector has also surged, increasing more than four-fold from 2004 to RMB347.3 billion in 2014 (Figure 3).

Figure 3
China's sustainable development spending (RMB billions)



Source: CEIC Data, Statista.

2. "Global EV Outlook 2017." International Energy Agency, retrieved 30 September 2017.

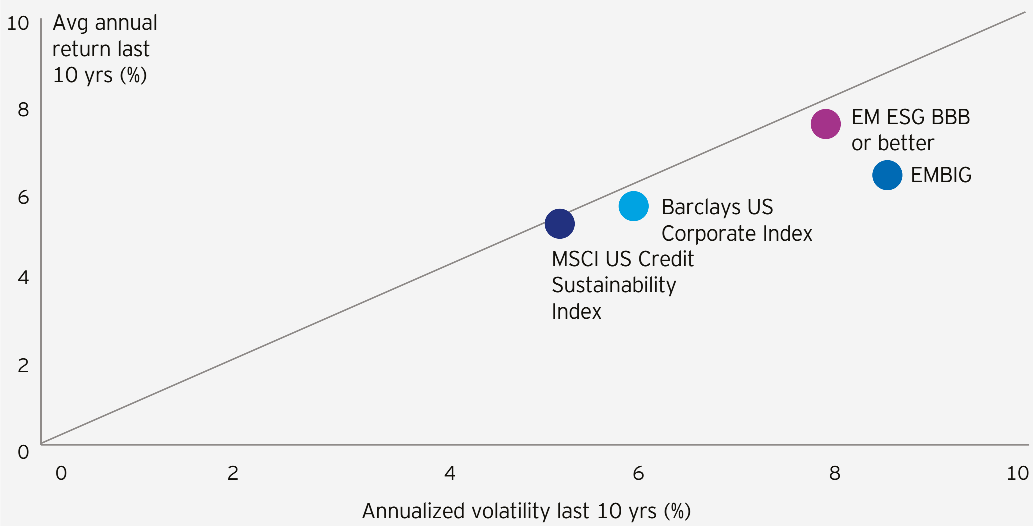
China's commitment to environmental protection and appetite for green bonds should continue. It has supported the Paris Agreement, whereas the US announced its intention to withdraw from the landmark accord. President Xi Jinping stated in May that China must safeguard the environment "like one protects one's eyes" and regard it "as one treats one's life."[3] The Ministry of Environmental Protection has backed up the message, overseeing a campaign dating back to July 2016 that has punished an estimated 18,000 companies and disciplined at least 12,000 officials, according to local reports. [4]

The "One Belt, One Road" policy could also help scale up China's green bond market as demand stands to grow significantly for new fixed investment to enhance the country's land and sea links with the rest of the world. More than US$900 billion worth of projects have already been planned or are in progress under the initiative[5] and additional funding raised over the next one to two decades could range between US$4 trillion and US$6 trillion.[6] Green bonds could be a viable source of financing for those projects that seek to replace antiquated infrastructure with new eco-friendly forms of transportation. Emphasizing the importance of sustainable development, President Xi proposed setting up "an international coalition for green development on the Belt and Road" when unveiling the initiative at a global forum.

Strong performance record for ESG strategies

Global interest in responsible investment is growing as investors look to fulfill an ESG mandate or gain portfolio diversification. Helping to drive that interest is a positive performance record. Our analysis finds that ESG-focused strategies can deliver attractive risk-adjusted returns compared with traditional non-ESG approaches. In fixed income, higher returns are typically associated with higher risk (lower credit quality) issuers that must pay a premium to raise capital. But over the past ten years, investing in best-in-class ESG IG corporate debt and emerging market sovereign debt generated similar returns to the broader, traditional indices (Figure 4). [7]

Figure 4
ESG returns compare favorably to traditional investment strategies



Source: Bloomberg L.P. and Invesco. Data from Dec. 29, 2006 to July 31, 2017. Indices are: Bloomberg Barclays MSCI US Credit Sustainability Index, Bloomberg Barclays US Corporate Index, JP Morgan Emerging Markets Bond Index-Global Diversified, ESG BBB or better is an index calculated by Invesco using the returns of EMBI countries currently rated ESG BBB or better by MSCI.

Green bonds have emerged as a key component within responsible investment strategies. While they have been available for only a decade, early evidence suggests that they are a viable asset class for ESG-driven and non-ESG-driven investors alike.

3. "Xi stresses green development." Xinhua 27 May 2017.
4. "12,000 officials disciplined and 18,000 companies punished in China's sweeping crackdown against pollution." South China Morning Post 2 September 2017.
5. "China's One Belt, One Road Initiative Brings Risks." Fitch Ratings, 26 January 2017.
6. 'Belt and Road' to need up to US$6 trillion in funding over next 15 years, says HSBC head." South China Morning Post 19 June 2016.
7. For more details, read "ESG means 'active' ownership and investment" in Invesco Fixed Income Global Fixed Income Strategy August 2017.

For green bonds issued globally during the five quarters through March 2017, spreads tightened 28 days after the announcement date for 79% of euro-denominated issues and 49% of US dollar-denominated ones. [8] Analysis showed seven out of ten issuances surveyed outperformed their corresponding indices 28 days after announcement.

Meanwhile, green bonds were found to behave more in line with the broader market in terms of subscriber interest. Average oversubscription was approximately 2.7 times for euro-denominated issues and 3.2 times for US dollar-denominated ones. Interest was generally higher for corporate green bonds.

Foreign investors' ease of access to China green bonds

Foreign investment in Chinese fixed income markets had previously been constrained by various structural restrictions. Steps announced by the PBOC in 2016 to open up the China Interbank Bond Market (CIBM) to international investors and in 2017 to simplify foreign access via Bond Connect appear likely to change this. [9] These new policies create a vast pool of opportunities for foreign investors, given that the CIBM accounts for over 90% of China's combined onshore and offshore RMB bond markets. [10]

China's bond market is the third largest in the world and could outpace Japan within the next one to two years as the second largest if its current growth rate is maintained. The newly announced Bond Connect program brings foreign investors improved operational efficiency, simplified account opening process, international trading platforms and offshore trading settlement. These policy efforts also put China's green bonds within much closer reach of foreign investors.

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China green bond market increasing in sophistication and complexity

What constitutes a green bond in China is broadly aligned with general standards globally. In H12017, more than 75% of a total US$11.5 billion in Chinese green bond issuance met international definitions.[11] One point of differentiation is that "clean coal" is considered an acceptable sector for green financing in China but not in most other countries. With most of its energy currently coming from coal, China has invested in technologies to reduce the emissions and harmful pollutants from the fossil fuel as it increases adoption of renewable power sources.

China and the broader global community have continued to share information on green bonds to identify and secure common ground. For example, the PBOC and European Investment Bank unveiled a new partnership in March to contribute to the development of green finance. Increased alignment with the global green bond market should increase foreign investors' familiarity when considering Chinese issuances and could also reduce the need for extra due diligence.

The China green bond market itself has also demonstrated increasing sophistication and complexity. Commercial banks accounted for nearly 90% of issuances in H12016, but the pool of issuers has since expanded. In the same period in 2017, commercial banks and non-financial corporates each generated 38% of the country's green bonds.

In 2017, the typical China green bond profile has also changed in terms of tenor and size. Among the top 10 issuances in 2016, maturity periods were either 3-years or 5-years. That has shifted in 2017 with the largest green bonds including a more diverse range of tenors, e.g. a 15-year maturity period.

8. "Green bond pricing in the primary market: January 2016 – March 2017." Climate Bonds Initiative and the International Finance Corporation, retrieved 30 September 2017.
9. Invesco discussed how foreign investors can access CIBM in the white paper "The Opening of China's Bond Markets: Opportunities for Global Investors".
10. ChinaBond, HSBC, as of end 2016.
11. "China Green Bond Market Mid Year Report 2017." Climate Bonds Initiative, retrieved 30 September 2017.

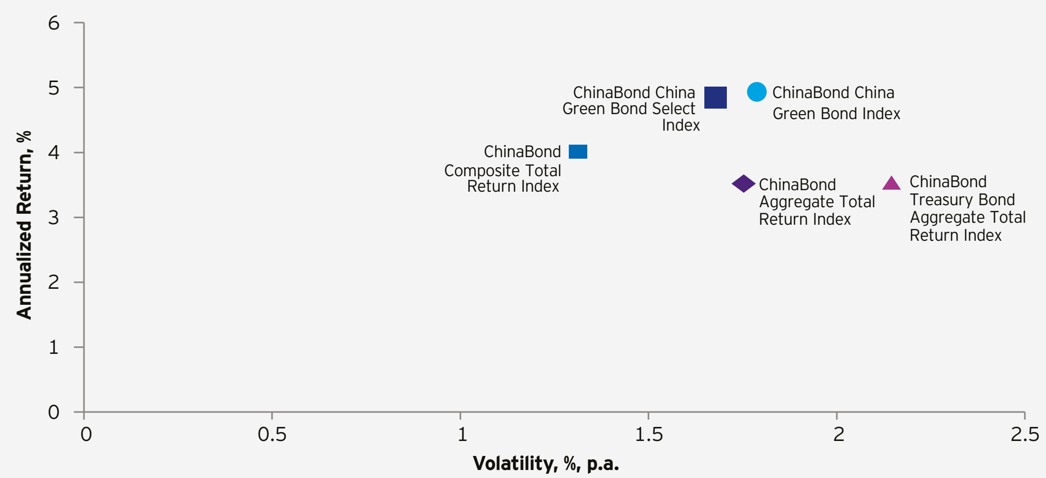
As a result, there is a greater range of coupons available to investors since bonds with longer maturity periods typically offer higher rates to account for duration risk. The market has also been less top-heavy in 2017. There have been more than 75 issuances so far versus 50 in 2016, and just two have topped the US$1 billion-mark compared to 10 such bonds last year.

The majority of China's green bonds are considered investment-grade by onshore ratings agencies. This could give foreign investors more confidence when doing due diligence ahead of a potential investment, particularly since Chinese green bond issuers face additional layers of oversight. The PBOC requires transparency around the use of bond proceeds, for example, to ensure that the capital raised is channeled into qualifying projects. Issuers must release quarterly reports to explain how proceeds are being used and are also advised to provide information about the environmental impact of the related projects.

In terms of financial performance in the onshore market, China green bonds have outperformed central government bonds and the aggregate overall bond market (Figure 5). The China Central Depository & Clearing Co., Ltd. (CCDC), together with CECEP Consulting and the Climate Bonds Initiative, developed two green bond indices to track the performance of issuances in the onshore market: ChinaBond China Green Bond Index and ChinaBond China Green Bond Select Index. Both of these indices have generated higher returns with lower or similar volatilities compared to the onshore ChinaBond Aggregate Index and the ChinaBond Treasury Bond Aggregate Index.

The ChinaBond China Green Bond Index includes bond types like green financial bonds, policy bank bonds, corporate bonds, enterprise bonds and middle term notes. The constituents must satisfy one of the following criteria: China Green Bond Endorsed Project Catalog (2015 Edition), the Green Finance Committee (GFC) of China Society of Finance and Banking, Green Bond Issuance Guidelines by the NDRC, Green Bond Principles by International Capital Market Association and the Climate Bonds Standard by Climate Bonds Initiative. The Select Index requires all of the above criteria for a bond to be included.

Figure 5
ChinaBond index return vs volatility



Source: ChinaBond, Bloomberg, Invesco, data from 31 December 2009 to 30 September 2017.

Despite issuing its first green bond in 2015, China has already emerged as the world leader. In a short space of time, Chinese regulators and authorities have introduced the new asset class, created a market for it and unveiled comprehensive guidelines on how to use, manage and report proceeds. The scale of development in the country's green bond market makes it an asset class to watch for both ESG-driven and non-ESG-driven investors alike.

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Important information