

# Greener Pastures: China Cuts A Path To Becoming A Green Superpower

November 19, 2018

## Key Takeaways

- China is placing pollution control and an environmentally-conscious society at the forefront of its development agenda and turning to the green finance market to fund its sustainable growth.
- Through a supportive policy framework for green finance and strategic investment in renewable energy, battery storage, and electric vehicles, China is advancing next generation technologies that will help bolster its economic expansion.
- The country is promoting a green image for its ambitious Belt & Road Initiative in order to court the participation of international private capital, which is crucial for success.
- We see a number of ongoing challenges related to its green investments, such as a looming trade war with the U.S. and opposition by some nations to its Belt & Road Initiative, among others, but in our view, China will benefit considerably in the execution of its green strategy.

The response to climate change is driving a global transformation that has the potential to reshape geopolitics as countries around the world reorient their economies toward low-carbon and sustainable development. At the forefront of this shift is China, which is positioning itself as a leader on climate action as the U.S. federal government retreats, and is turning to the green finance market to fund its environment-friendly industries, achieve sustainable growth, and advance social well-being.

China has become a major player in the global green finance market, promoting environmentally-friendly policies and investing strategically in clean technologies. The country is also not only attempting to improve trade links through the ambitious Belt & Road Initiative, but also creating new green infrastructure investment opportunities in its development, and using the green finance market to court favor and expand its influence.

In our view, however, China still has a long way to go to transform its massive economy from being a major polluter to a green power. These challenges are compounded by the widespread air, water, and soil pollution that the country continues to face, and given its position as the largest emitter of greenhouse gases globally, the biggest coal consumer, and second-largest user of oil. That said, we expect China to reap considerable benefits from its emphasis on green development, both at

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home and abroad, and its role in the green finance market and the global stage is likely to become more prominent as it executes its green strategy.

## **"Beautiful China": More Than Political Rhetoric**

Chinese leaders have ramped up their emphasis on environmental issues as national priorities, elevating pollution control to make it one of the top three major battles that the nation must fight, alongside financial risks and poverty.

Along those lines, China has been making a major pivot toward a low-carbon and environmentally friendly development model encapsulated in legislative efforts, Five-Year plans, and in blueprints at the provincial and local levels. To tackle pollution, China has escalated its efforts to create a comprehensive suite of laws and strict standards to remedy air and water pollution, along with new legislation on soil pollution prevention and control. Its climate agenda, outlined in its most recent Five-Year plan, includes ambitious targets to reduce absolute and relative carbon intensity and a peak in its carbon dioxide emissions by 2030. The country has also introduced what is likely to be one of the largest carbon emissions trading schemes and is targeting 675 gigawatts (GW) of renewable capacity installed by 2020.

The Chinese government has recognized that green finance is a powerful instrument to fund the country's next stage of development through its top-down government guided approach. President Xi Jinping has expressed China's commitment to build an ecological civilization and explicitly called on green finance to buttress its green agenda. The central bank, the People's Bank of China (PBoC) has also articulated this sentiment in its Guidelines for Establishing the Green Financial System, in which it outlines its support for a number of forms of green financing. Various financial regulatory authorities have further encouraged this trend by providing guidance and improving transparency to market participants on green bond issuance and climate financing. China also launched a green finance reform in June 2017 and green finance innovation pilot zones in five provinces that each have specific initiatives or targets for promoting green financing. In our view, these are important signals from the top-down decision-making bodies that will support further growth of the Chinese green finance market.

## **A Bank-Dominated Green Finance System**

We expect banks will continue to play an overwhelming role in China's green finance system under the helm of the PBoC. Apart from bank loans, green finance in China also comprises bonds, equities, insurance, and funds. By the end of 2017, the total balance of green loans extended by 21 major Chinese banks was over Chinese renminbi (RMB) 8 trillion (nearly 10% of total loan book), representing more than 90% of total green financing in the country.

The PBoC spearheads the setting of standards and regulations for green finance in China, and represents the country's top-down approach to promoting green bonds, especially in the early stages of development. In December 2015, the PBoC published the Chinese Green Financial Bond Guidelines and Catalogue to guide the issuance of green bonds by Chinese banks. Shortly after, the National Development and Reform Commission also issued Guidelines for the Issue of Green Bonds by corporates. Both guidelines stimulated the take-off of China's green bond market in 2016 and made the nation the largest issuer that year.

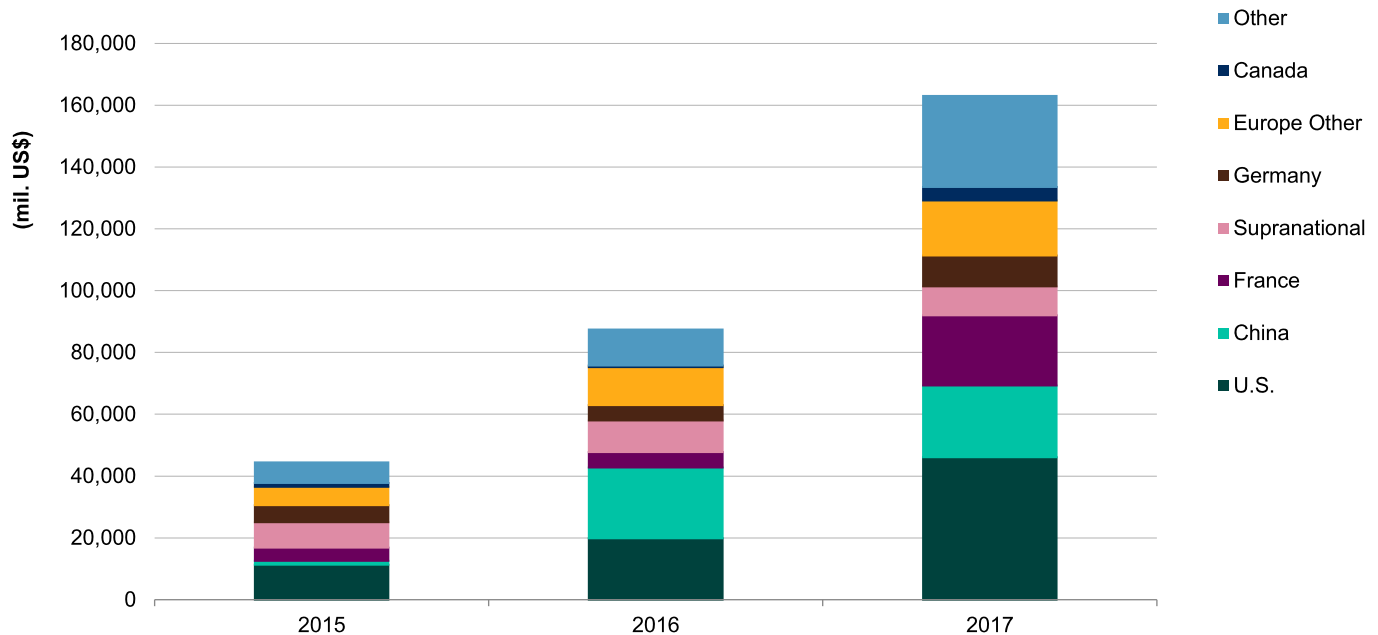
Supportive government policies have further enabled China to reach nearly the top of the league table in 2017 as the second-largest issuer of green bonds, representing 15% of new issuance globally with about \$23 billion of internationally aligned new issuance (US\$37.1 billion total

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issuance). This put China behind the U.S., which issued \$42.4 billion, closely followed by France, with \$22 billion. China has already issued \$13 billion in the first half of 2018, a 14% increase year on year (data from the Climate Bonds Initiative).

Chart 1

### Internationally Aligned Green Bond Issuance Growth



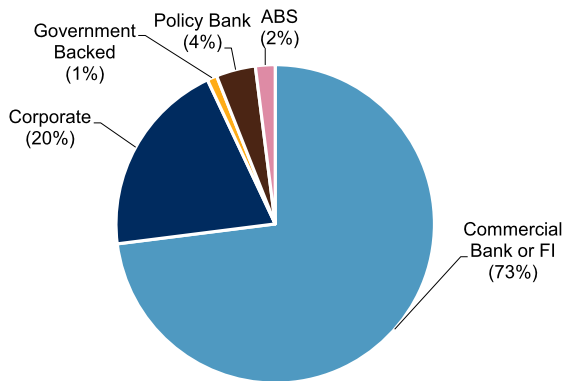
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The policies on green finance have evolved to focus on better coordination across different ministries and cascading of policy support from the central to local governments. In August 2016, seven government agencies, including the PBoC and the Ministry of Finance, jointly issued the Guidelines for Establishing the Green Financial System, marking a new stage of green finance in China. Additionally, the PBoC stepped up support in 2017 by including banks' green credit performance in the central bank's macro-prudential assessment and helping ease capital requirements to a certain extent. In 2018, the PBoC further boosted support by expanding medium-term lending facilities to include banks' qualified green credit into collateral for monetary policy operations, aiming to lower the cost of green financing.

Banks also dominate China's nascent green bond market. Of note, issuance by small and midsize commercial banks is gaining momentum and growing much faster than major banks. Beyond banks, in 2017, a more diverse set of issuers started to appear, with more corporate issuers tapping the green bond market than the prior year. Similar to other financing arenas, state-owned issuers are far more active than privately owned entities in printing green bonds in China to finance investments in renewables, green buildings, and transportation.

Chart 2

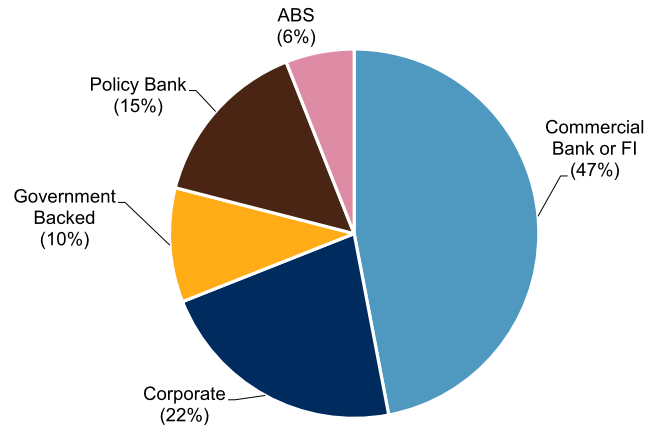
**China 2016 GB Issuance By Source**



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Chart 3

**China 2017 GB Issuance By Source**



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We expect that financial innovation will also underscore the breadth and depth of development in the green finance market. For example, State Power Investment Corp, one of five major state-owned power generation groups and also the world largest solar developer, is launching a RMB4.5 billion green asset-backed securities (ABS) program by securitizing the government subsidy receivables of its solar projects. Green ABS is likely to provide an effective solution for Chinese renewables developers, which are struggling with operating cash flow deficits and liquidity strains because of their mounting subsidy receivables. Moreover, the ramp-up in green lending by banks enables green asset securitization to follow, which in turn frees capital for further green lending. We expect to see more frequent green ABS transactions and even local government bonds emerging and growing at a faster rate in future.

Despite significant progress, achieving China's climate and sustainable development goals will require significant additional financing. The country is estimated to require at least RMB3 trillion-RMB4 trillion (\$480 billion-\$640 billion) each year in green investments from 2015 to 2020 to meet its ambitious energy and climate goals alone, according to research by the Ministry of Ecology and Environment and the China Council for International Cooperation on Environment and Development. The Chinese government expects that 85% of this investment will need to come from private sources, both domestic and foreign.

Compared with Europe and the U.S., China is still incubating a growing investor base and better awareness of sustainable finance among the financial community. This, compounded by higher administrative costs for green bond issuance and surveillance, is starting to hinder ongoing growth of the Chinese green bond market as both the demand and the supply of green finance are reaching bottlenecks. In light of these factors, some local governments, such as Jiangsu province, are putting forward measures to incentivize bond issuers through efforts including subsidies or interest rate discounts, in order to lower the overall issuance costs. However, the fiscal strength of local governments is key to sustaining the monetary benefits to issuers. As many Chinese local governments are already financially constrained, other more pressing policy goals may prevail when they allocate limited resources.

We believe more incentives are needed to boost the appeal of green finance products to investors. In the domestic market, as banks are the primary issuers of green loans and are also the major

investors in green bonds, some argue that an appropriate risk weighting for bank holdings of green finance assets would likely boost demand from banks. Expanding the investor base, especially through the opening of China's bond market to more international investors under the Bond Connect scheme since 2017, would also help foster responsible investment in China and increase the demand for green bonds over the longer term, particularly when consistency and transparency are also tackled effectively.

### **Consistency Is Key**

Harmonization of green definitions is the first and most important step to attract international capital to China's green bond market. Many of the self-labeled green bonds are issued under the Chinese green bond definitions, which are considered more flexible than the more established international guidelines. Current Chinese definitions include: efficiency improvements to coal facilities, nuclear power, and a higher limit (up to 50%) of the allocation to refinance or provide general working capital. In 2017, only around 62% of Chinese self-labeled green bonds aligned with international definitions. Therefore, to attract foreign investors such as through the Bond Connect scheme, the government is looking to improve the cooperation and consistency between Chinese green issuance standards and regional and national green bond markets across the globe.

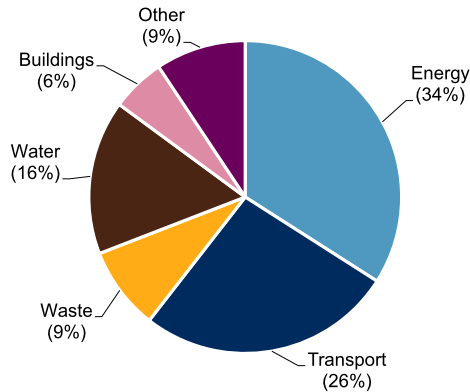
More efforts are under way to address the consistency issue between China and the international market. In March 2017, the Chinese Green Finance Committee and the European Investment Bank launched a joint initiative to establish a joint framework to gradually align the Chinese and European classifications of "green" in order to support greater issuance and investor demand for Chinese green bonds. In our view, the amount of internationally aligned issuance is likely to grow as the country embraces global standards and best practice, which will strengthen China's ability to attract foreign investors.

### **Bracing For The Clean Technology Superpower**

A key part of China's green strategy centers on leading the renewable energy and clean technology revolution. In particular, its investments in renewables, batteries, and electric vehicles could push the country to the forefront of the energy transition, supporting its economic expansion and aspirations of global leadership. In 2017, clean energy represented the largest allocation of Chinese green bond proceeds, with \$6.8 billion in issuance, followed by low carbon transport, which combined accounted for 52% of total issuance (according to Climate Bonds Initiative data). The country's green bond volume continued along this trend in the first half of 2018; clean energy (\$3.4 billion) and low carbon transport (\$2.8 billion) together represented 66% of the \$13 billion in total issuance. According to the International Energy Agency, China plans to invest more than \$6 trillion in low-carbon power generation and other clean technologies by 2040, far exceeding the levels of investment committed by other countries in the EU or the U.S.

Chart 4

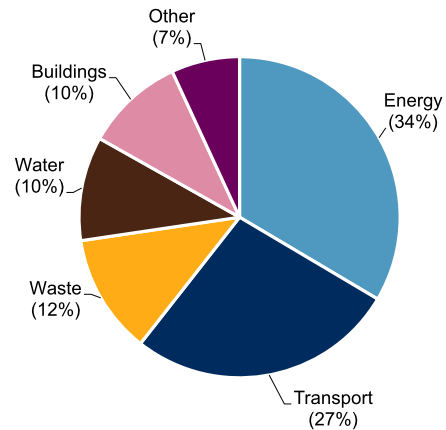
**China 2017 GB Issuance By Asset Type**



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Chart 5

**China H1 2018 GB Issuance By Asset Type**



H1 2018—First half of 2018.

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China already dominates in the manufacture of solar panel technology. In 2017, solar modules produced in China represented about 71% of global production (including foreign companies manufacturing in China) and its ability to drive down the cost of solar technology has helped the technology penetrate global markets. Now, the country is pursuing battery storage, a technology that promises to unlock the intermittency challenges of renewable energy, and is positioning itself as a leader in the global battery market. China accounted for 60% of the 131 gigawatt hours (GWh) of total global lithium ion battery manufacturing in 2017. Bloomberg New Energy Finance expects this to triple by 2021, with China maintaining nearly 73% of total capacity.

Fueled by supportive government policy, especially the subsidy scheme, China has become the largest electric car market in the world. Globally, electric passenger vehicle sales grew by 54% in 2017 to 1.1 million, and China accounted for over half of those sales. The country accounted for 26 million of 27 million in electric vehicles sales, including two- or three-wheeled e-bikes. This new energy vehicle (NEV) expansion is further supported by China's efforts to develop charging station infrastructure; it has three times as many outlets as the U.S. China is also on track to meeting its target of having 5 million NEVs (mostly electric cars) on the road by 2020 and for the share of NEV sales to represent 40%-50% of total vehicle sales by 2030.

China is also leveraging the green bond market to invest in overseas renewable energy projects, enabling the country to attract a base of foreign investors and increase its influence abroad. In 2017, \$6.6 billion (RMB44.1 billion) of offshore green bonds were issued, representing about 18% of China's total green bond issuance. For example, in June 2017, China Three Gorges (CTG) issued €650 million green bonds to finance its acquisition of European wind power projects in Portugal and Germany. This transaction achieved an S&P Global Ratings Green Evaluation score of E1, the highest ranking, reflecting the relatively high environmental impact offered by the financing of wind farms that offset the moderate aggregate carbon intensity of local grids. In the first half of 2018, over 40% of Chinese green bonds were issued overseas by leading corporates and large commercial banks. In addition to CTG, we have published our Green Evaluation of two bonds to finance green buildings in China:

- Modern Land (China) Co. Ltd., a US\$350 million green bond; and

- Landsea Green Group Co. Ltd., a US\$150 million green bond.

By taking a lead in clean technologies, China is not only improving its domestic generating capacity and its energy security amid trade conflicts, but also positioning itself to become an exporter of clean energy technologies, which helps support its continued economic expansion and bolsters its geopolitical influence. These efforts also facilitate the decarbonization of its economy in line with the Paris Agreement in the process, strengthening China's commitment in the climate fight.

### **Private Capital Critical For Belt & Road**

In our view, attracting private capital will be crucial to execute the China-led Belt and Road Initiative (BRI). However, China still needs to convince investors of the underlying credit quality of the infrastructure projects, let alone its green credentials. The BRI is an extensive infrastructure and economic development plan across around 70 countries and territories spanning Asia, Africa, and Europe along the Silk Road Economic Belt and 21st century Maritime Silk Road. We understand investment to support the BRI could reach a massive US\$6 trillion by 2030. Seed capital will come from two China-backed financing schemes, the sovereign Silk Road Fund and, to a lesser extent, the Asian Infrastructure Investment Bank (AIIB), as well as the Chinese Finance Ministry, the China Development Bank, and the state banking sector. But the huge funding needs for the BRI cannot be met without the participation of international capital. China is clearly aware that more international capital to finance the BRI projects is of both political and economic success to this initiative.

In May 2017, four Chinese ministries jointly published their plan to promote the Green BRI stating that the initiative becoming more green is crucial to its success. By applying a green agenda to the BRI, in our view, China is elevating the value of the initiative and helping to court international participation. The massive undertaking offers a supply of green infrastructure investment opportunities that could meet the increasing demand by global investors for sustainable finance. But we foresee significant hurdles in getting this initiative off the ground. Fundamentally, the appeal of those projects to global capital is still subject to the standard determinants of infrastructure finance, along with the adherence to international practices in assessing the social and environmental impacts, as well as governance and transparency.

Lately, the BRI also encountered some setbacks in the developing markets associated with the debt sustainability of those large infrastructure projects. Specifically, the political backlash in countries such as Sri Lanka, Pakistan, and Malaysia, will lead to some BRI projects being canceled or delayed under the concern of debt sustainability. This has placed the ambitious initiative at risk despite the promoted green image.

### **Challenges Ahead**

Despite China gradually shifting its economy to meet its climate goals and invest in clean technology, a number of obstacles remain for the country to truly transform into a green superpower. Chiefly, China continues to rely heavily on fossil fuels; coal remains the largest source of energy, representing over 60% of its energy mix although China aims to reduce the share of coal in its primary energy mix down to 40% by 2050. Shifting its massive electricity system will be costly and despite the growing penetration of renewables and natural gas, both transmission and gas infrastructure is still under development.

Outside China, Chinese policy banks and state-owned commercial banks continue to invest in

certain coal projects in developing markets. This not only runs counter to its own domestic climate policies but also undermines China's desired image as a climate leader. Moreover, other Chinese foreign investments, such as those in agriculture and mining, have reportedly failed to meet the same environmental standards that the country imposes domestically, suggesting that China may be exporting its environmental footprint. This inconsistency could also undermine China's credibility as a green leader as host countries begin to pay more attention to the environmental and social impacts of these investments.

Other forces also weigh on China's green economic strategy, including the escalating trade war with the U.S., which is likely to put pressure on the Chinese economy in the face of its growth plans. Attracting foreign investors will also require improvements in transparency in the Chinese finance market, although the government has pushed reform and transparency. Additionally, China's desire to attract foreign investment, particularly through the global sustainable finance markets, will require a greater focus on environmental, social, and governance issues (ESG), an investment ethos that has been embraced by foreign investors, particularly in Europe. Environmental performance information, in particular, remains insufficient and will require greater environmental risk information statistics and data disclosures to meet the demands of green bond investors. Indeed, attracting international investors will require Chinese firms to improve their treatment and disclosure of the broader set of ESG risks and opportunities and to remain accountable to the environmental and social commitments made.

As the second-largest economy in the world and the largest emitter of carbon, China has a major role to play in global efforts to address climate change. Recognizing the great opportunity presented by the U.S. federal government's retreat from its national climate commitments, China is leveraging the green finance market to invest in the clean technologies of the future in an effort to expand its economy and in turn improve its influence abroad.

## Related Research

- S&P Global Ratings' Proposal for Environmental, Social, And Governance (ESG) Evaluations, Sept. 24, 2018
- Green Evaluation: Landsea Green Group Co., Ltd. US\$150 Million Green Bond, Jan. 9, 2018
- Green Evaluation: Modern Land (China) Co. Ltd. US\$350 Million Green Bond, Feb. 28, 2018
- Green Evaluation: Three Gorges Finance II (Cayman Islands) Limited, July 10, 2017
- How China's Transition To The World's Largest Carbon Market Could Affect Corporate Creditworthiness, Sept. 15, 2014

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