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Green Belt and Road

In September 2013 Chinese President Xi Jinping unveiled a grand vision to reawaken and extend the old Silk Road in the name of enhanced international trade, development and cooperation. This instalment discusses China's Belt and Road Initiative (BRI) and the role sustainable finance can play to facilitate this initiative.

Belt and road initiative

The scope of the BRI is gargantuan, set to account for 30 percent of global GDP and require up to US$6 trillion of investment by 2030. Funds will be strategically invested in transport links, energy and infrastructure projects along several economic corridors from China into Central Asia, the Middle East, Europe, South-East Asia and Africa. Trade along many of these corridors is underdeveloped and could offer China new outlets for the goods it manufactures, and the opportunity to increase its geopolitical influence. Though Chinese public funds are being used as an initial stimulus, much of the subsequent investment is envisaged to come in partnership with private capital. Investment on this scale cannot be driven by Chinese public funds alone.

Green belt and road

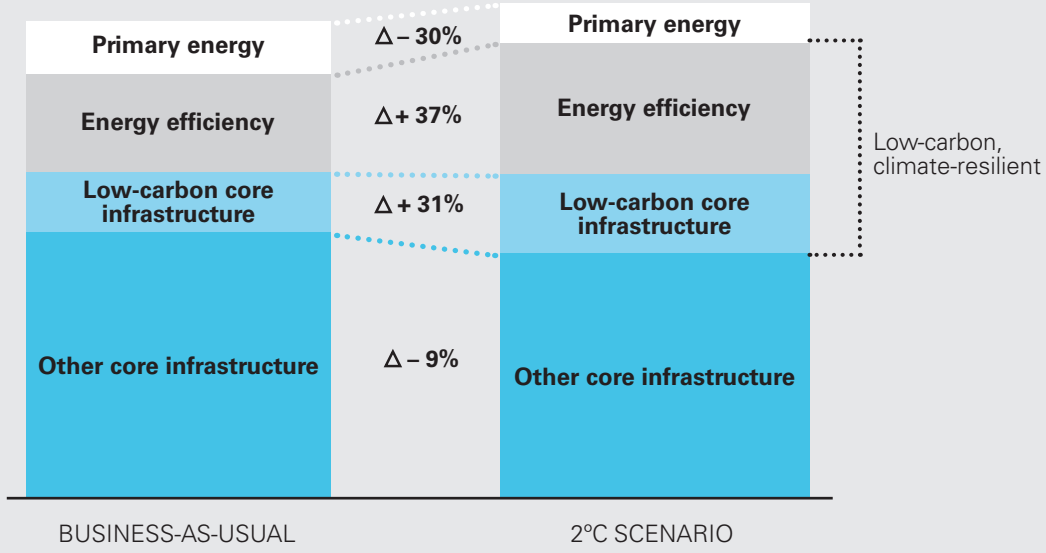
It is estimated that from 2015 to 2030, global demand for climate resilient infrastructure could surpass US$90 trillion. It is now similarly acknowledged that there is an enormous need for green infrastructure, transport links, renewable power and water services along the designated trade routes. Sustainable design is key because new structures will be used for decades to come and the level of sustainability will be, to an extent, "locked in" for the lifespan of the structure. One of the biggest constraints on the expansion of the green finance market has been the lack of viable investment opportunities on the scale sought by institutional investors.

The BRI dovetails perfectly with the drive for increasing Chinese sustainable finance activity. The scale of the BRI and the range of targeted projects and investments mean that this figure is expected to continue to escalate. The BRI is a perfect supply conduit for sustainable technology and investment opportunities as many of the projects born out of the BRI will be energy and infrastructure-based and will require both private and public funding. Many of the projects within this vast initiative can be made more sustainable by incorporating low-carbon technology, which will promote these projects as viable investment opportunities to investors who are clamouring for green investments. Partnering green and BRI projects presents synergies in both practical and economic terms[1]. Greening the BRI[2] has been described as crucial to the initiative's success, and four Chinese ministries have jointly published a highly ambitious action plan on promoting the Green BRI , reaffirming China's national commitment to making this a reality.

1 https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm

2 https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm

Change in infrastructure spending required for a 2ºC scenario (percentage change in expenditure over 2015-2030 compared to Business-as-usual)



Primary energy: extraction of oil, gas and coal

Energy efficiency: buildings, energy and transportation

Low-carbon core infrastructure: renewable energy, nuclear, CCS, low-carbon transport (e.g. light rail and Bus Rapid Transit system), climate-proofed water and sanitation including some adaptation infrastructure (e.g. sea walls and flood protection)

Other core infrastructure: standard water/sanitation, high-carbon transport (e.g. roads), energy production and telecommunications

Note: Δ is the mathematical symbol for change.
Source: Bhattacharya et al., 2016; Global Commission on the Economy and Climate, 2014

Chinese sustainable commitments

China is taking up the mantle in leading global efforts to combat climate change. In December the UN signed an agreement with China to promote the sustainable development of the BRI, and by 2020 China plans to spend more than US$360 billion developing renewable energy and decommissioning coal-fired power stations. These commitments are already backed up by results: China's solar energy capacity increased by 82 percent in 2016, contributing to China now having the biggest renewable energy industry in the world.

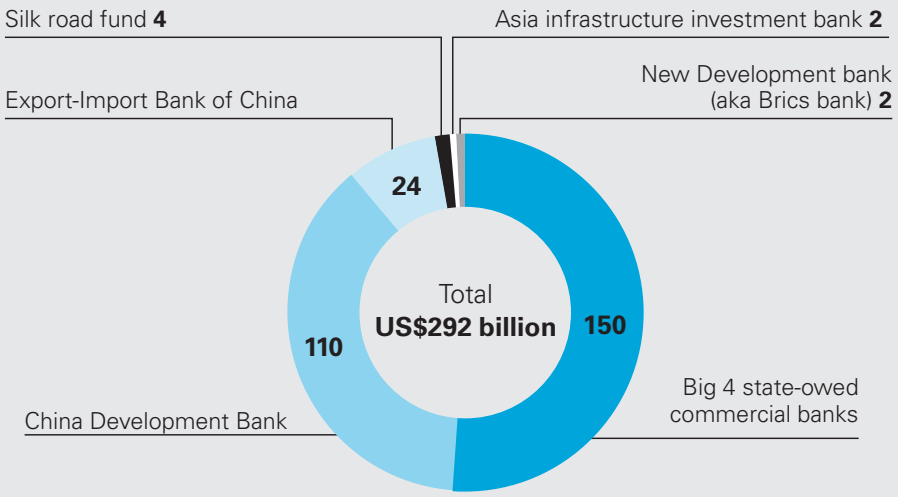
China is also implementing a carbon emissions trading scheme, capping the amount of greenhouse gas companies can emit. The fact that it immediately included power generation into the scheme is a significant policy shift towards a low carbon economy given China's historic reliance on coal. Related to this, China has begun shutting down coal power stations and increasing renewable capacity.

China's green promises are supported by its "zero to hero"[3] entry to the green bond market in 2016 following the launch of its domestic green bond frameworks as well as the introduction of policy incentives offered by the government. Despite being somewhat late to the party, China's debut year in the green bond market in 2016 saw it issuing US$36.2 billion – almost 40 percent of global green issuances in that year. China's experience of beginning the transition from a fossil fuel-based economy to something more sustainable will be key when initiating projects in the BRI.

3 https://www.ft.com/content/84ac893a-028e-11e7-aa5b-6bb07f5c8e12

Funding for BRI by source

Outstanding loans or equity investment at end-2016 (US$ billion)



Source: Company statements; Oxford Economics; FT estimates

Financing BRI projects

Finance for the BRI will come in a variety of forms and from many different market players, from the initiative-dedicated Silk Road Fund to state-owned banks and the US$100 billion Asian Infrastructure Investment Bank.

The variance in project type, geography and scale will mean that a toolbox of financial instruments will be necessary. Some of the key options available are set out below.

Green loans

Bank finance will be an invaluable instrument to getting many sustainable projects off the ground in the pre-construction stages of development. Local banks are best equipped to assess risk, and most initial infrastructure financing is provided by banks[4]. Having released the Green Credit Guidelines in 2012, Chinese fiscal policy has since strongly promoted green lending by banks. As of 2014, the equivalent of US$920 billion of green credit was outstanding in the biggest 21 Chinese banks. Numerous proposals are being floated by the PBoC to further encourage green lending, including government-subsidised interest rates for green loans[5], and requiring each financial institution's green credit rating to be included in their macro-prudential assessment[6].

Green bonds

Green bonds are useful as a method of refinancing a project initiated by a bank loan owing to the lower cost of capital they represent. A leading Chinese bank recently issued the inaugural BRI green bond raising US$2.15 billion, setting the bar high for others to follow. The use of proceeds will be dedicated to eligible green assets in renewable energy, low carbon transportation, energy efficiency and sustainable water resource management across the BRI.

Green sukuk

Islamic finance is an invaluable tool to unlock investor capital along the BRI. There are natural synergies between Islamic and green finance principles. sukuk may prove to be instrumental in broadening the global green investor base and tapping private (and public) capital in regions with strong Islamic finance markets. Green energy and infrastructure projects are well suited to Islamic finance owing to their asset-based nature. Unsurprisingly, there has been significant interest in developing infrastructure sukuk as a financial instrument, Shari'a-compliant products could finance the construction of public investment works[7].

4 https://www.climatebonds.net/files/files/GB-Public_Sector_Guide-Final-1A.pdf

5 http://unepinquiry.org/wp-content/uploads/2015/04/ECGFS_Detailed_Recommendation_4_Discounted_Green_Loans.pdf

6 http://www.reuters.com/article/us-china-banking-greenfinance-idUSKBN1970R1

7 https://www.fitchratings.com/gws/en/fitchwire/fitchwirearticle/Infrastructure-Sukuk-Challenge?pr_id=982376

Green ABS and CLOs

Green ABS and CLOs are key tools to scale up green finance to make it more commercially viable, given that most individual green projects are not of a sufficient financial magnitude to warrant a bond issuance without aggregation. Banks can use the freed up capital to originate new facilities. This technique could be utilised by Chinese banks to alleviate the significant volumes of green loans on their books.

Opportunities along the BRI

The architect – China

China has a sophisticated financial infrastructure, and many domestic projects may be seen as relatively safe bets to international investors, especially when they are backed by Chinese state-owned institutions and development banks. Many investment opportunities along the green BRI may be found within China itself.

As Chinese cities account for 70 percent of the country's greenhouse gas emissions, it is estimated that US$1 trillion of urban low carbon investment will be required to meet government targets set in the 13th Five Year Plan (2016-2020), as set out in the table below.

Chinese climate aligned investments are now accessible to international investors through Bond Connect[8]. This is a market access scheme whereby foreign investors can invest in the Chinese interbank market through the Hong Kong Stock Exchange (HKEX). This market is where 62 percent of green bonds were issued from China in 2016 and HKEX are currently creating a green segment for this new platform.

Chinese fiscal policy is becoming increasingly favourable towards green finance including: preferential risk weighting, preferential tax treatment for green projects, interest rate subsidies, exemptions from loan-deposit ratio cap for loans funded by green bonds and a fast-track approval procedure for green bonds.

The green sukuk innovator – Malaysia

Malaysia has one of the most developed economies along the Belt and Road and has solidified its commitment to developing its green economy, and through its experienced financial institutions Malaysia is well positioned to become the green sukuk finance hub of the region. Malaysia has one of the most prolific and accessible domestic sukuk markets and in 2016 over 46 percent of global sukuk issuances originated from Malaysia[9]. This market-leading position has translated into green finance developments. In 2014 Malaysia launched a Socially Responsible Investment (SRI) Sukuk Framework and SRI sukuk are now being issued pursuant to such framework.

- To promote greater utilisation of green sukuk as a fundraising channel, several incentives have been put in place to encourage green issuances including tax deductions on issuance costs of SRI sukuk, tax incentives for green technology activities and financing incentives under the Green Technology Financing Scheme.

	Project category	Required additonal amount	Investment needs (RMB billion)	Investment needs (US$ billion)
Efficient buildings	New green buildings	3080 million square meters	224.8	34.58
	Existing building retrofit	2080 million square meters	1,426.2	219.42
Green transportation	Rail	3,000 km	2,400	369.23
	Bus	181,000 public buses	627.1	96.48
	Electric vehicles	4.8 million charging spots	132	20.31
	Bike	171,350 public bikes	0.86	0.13
	Urban roads	64,600 km	1292.1	198.78
Clean energy	Distributed solar PV	64 GW	500	76.92
	Total		**6,603.06**	**1,015.85**

8 http://www.chinabondconnect.com/en/index.htm

9 http://www.capitalmarketsmalaysia.com/malaysia-leads-global-sukuk-market-rebound/

Malaysia has experienced a considerable increase of investment from Chinese investors, increasing 119 percent in 2016 and a further 64 percent in the first quarter of 2017[10], much of which is BRI related. The East Coast Rail Link, for example, is a flagship Malaysian BRI project which will promote accelerated economic growth along Malaysia's east coast. It will also act as an effective land bridge for transporting goods between the South China Sea and the Malacca Strait, avoiding the most congested section of the shipping lane. Malaysia offers a textbook example of successful collaboration under the BRI and sets a precedent for other South-East Asian nations.

The finance hub – Singapore

The BRI is mainly focused on developing economies and infrastructure which may not be directly relevant for Singapore[11]. However, the increase in infrastructure as a result of BRI activity in Singapore's neighbouring countries will present opportunities for Singapore's finance – including green finance – industry to take the lead in facilitating the financing of these projects. Singapore's well-established capital market and finance industry makes it a natural infrastructure finance hub and a key gateway into Asia for western investors.

The Singapore Business Federation and Chinese Enterprises Association recently launched the "BRI Connect Platform", which facilitates the engagement of local businesses offering financing and consulting expertise to firms wishing to engage in BRI projects. This will strengthen Singapore's position as a channel for western market participants to engage with the BRI.

A further breakthrough for the region came with the launch in November 2017 of the ASEAN Capital Markets Forum's ASEAN Green Bond Standards. These new standards have been developed based on ICMA's Green Bond Principles (GBPs), but provide more tailored solution for the region. This framework should make it easier for investors to compare and analyse sustainable investment opportunities across the BRI.

The rising emerging market economy – Indonesia

The IFC estimates that there will be US$274 billion of green investment opportunities in Indonesia between 2016-2030[12], which could generate prime opportunities under the green BRI. Indonesia has ambitious infrastructure improvement plans, in particular regarding energy, transport hubs and agricultural production[13].

In May 2017, a consortium of Indonesian and Chinese companies building Indonesia's first high-speed railway signed a US$4.5 billion loan with China Development Bank. High speed railway projects are a well-established green use of proceeds, so any green bonds or sukuk issued by Indonesia could be used to plug financial gaps in this project.

The government of Indonesia recently issued the world's first sovereign green sukuk, which complies with the ASEAN Green Bond Standards.

The African challengers – Ethiopia and Kenya

Like many regions encompassed by the BRI, East Africa may seem somewhat 'off road' from a BRI investment perspective. However, Ethiopia is well recognised for its commitment to building a green non-carbon economy by 2025, and for this reason among others, it has been designated one of the hubs of the African segment of the BRI. China has partnered with Ethiopia on developing power stations and grids based on renewable energy. A new metro network is now operational in the capital, Addis Ababa which was developed through Chinese investment. In spite of risks associated with investing in Ethiopia, investors take comfort in the fact that debts may be serviced in part by the revenue streams the completed project will generate.

Sustainable finance is particularly important for Kenya as well owing to its vulnerability to the effects of climate change. Government coffers alone cannot bridge the financing gap to transition it to a sustainable economy. Kenya's ambition is to reduce greenhouse gas emissions by 30 percent by 2030 with the goal of becoming a middle-income country based on sustainable development. Sustainable transport is also high on Kenya's agenda after the success of the recently completed Mombasa-Nairobi railway which was 90 percent financed by the Exim Bank of China. There are plans to extend the railway to Uganda, the Democratic Republic of Congo, Rwanda, South Sudan and Ethiopia which could be eligible for green financing.

The Islamic finance waystation – Dubai

Dubai is a key point of connectivity along the maritime segment of the BRI. The UAE, through Dubai, is already recognised as a regional financial hub for the Middle East, North Africa and sub-Saharan Africa. Islamic finance is gaining prominence as a channel for China to expand its economic influence abroad, strengthen ties with Muslim majority countries, and as a means for Chinese entities to raise financing offshore through previously untapped markets. The UAE is committed to promoting sustainable finance in the Gulf.

10 http://hkmb.hktdc.com/en/1X0ABOII/market-spotlight/Belt-and-Road-Investment-Soars-in-Malaysia

11 Apart from some exceptional innovations such as a floating solar farm projects: http://www.straitstimes.com/singapore/siting-solar-energy-farms-at-reservoirs

12 https://www.ifc.org/wps/wcm/connect/51183b2d-c82e-443e-bb9b-68d9572dd48d/3503-IFC-Climate_Investment_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES

13 http://www4.unfccc.int/ndcregistry/PublishedDocuments/Indonesia%20First/First%20NDC%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20%202016.pdf

The western frontier – CEE

CEE is the last piece of the map connecting China to Western Europe, and is a nodal point where three economic corridors meet: the Suez Canal route, the Eurasian overland route and the Northeast Passage through the Arctic Ocean. Projects in this region are primarily transport related, most notably a high-speed railway from Belgrade to Budapest. A Chinese energy technology company is also investing in a 46 megawatt windfarm project in Montenegro as part of its commitment to spend €1 billion on European expansion in the next 2-4 years[14]. The ex-Soviet rust belt is a strong candidate for continued development under the BRI.

Hurdles to the Green BRI

Questionable economic viability

Regardless of potential green investment opportunities, investors will generally only participate in projects they deem to be commercially viable. Whereas state-owned Chinese banks may be pressurised into pouring money into projects with questionable economic viability in the name of furthering the BRI[15], other investors may have a more limited risk appetite. Many BRI projects along the China-Pakistan Economic Corridor (CPEC) for example are unlikely to draw any foreign investor attention owing to the inherent risk profile of long-term Pakistani projects, not least the presence of separatists, Islamic State militants and the Taliban. Though this is at the extreme end of the risk spectrum, more common issues for BRI participants include underdeveloped credit markets, inconsistent regulatory regimes and poor infrastructure which make the initiation of local BRI projects problematic[16].

Economic stability would– at least in theory – significantly increase once investment has been pumped in. With functioning transport links, infrastructure and affordable renewable energy supplies local economies can grow, gaining the ability to service the initial debts incurred.

Disparity in green standards

A key hurdle in greening the BRI is standardisation of green taxonomies – there are inconsistencies between green standards which could lead to uncertainty as to the compatibility of projects with its investment criteria. For example, Chinese standards permit retrofits to fossil fuel power stations and so called "clean coal" projects. Such investments would not be palatable to some investors whose investments must meet other international standards.

In response to this, a supranational financial institution and China's Green Finance Committee (GFC) have produced a 'Rosetta Stone' comparison document between their sustainable taxonomies[17]. This facilitates mutual recognition of the green features of projects and financial instruments, with positive implications for market liquidity and investor demand.

Disparity in culture and regulatory frameworks

Many Chinese developers and investors are experiencing regulatory culture shock when starting up infrastructure projects in the BRI relating to land acquisition, procurement and transparency which is hindering progress of the initiative. Such regulatory disparity must be considered in advance of development in order to avoid hidden expenditure or, at the extreme, the collapse of the project.

The road ahead

The benefits of the green BRI are expected to be widespread. The development of each economic corridor will connect many remote locations to trading hubs, lowering entry barriers to supply chains which would otherwise have been untenable. This may have a positive effect on trade in central and western Asia, where the cost of importing a container of goods is currently the highest in the world[18]. Modernisation of the Eurasian railway network will slash the cost of imports and exports in this region and the vital development of renewable power infrastructure will offer a means by which economic developments in these regions can be done sustainably.

The present trajectory of Chinese policy shifting in favour of a green economy indicates that demand for green investments could finally begin to be satisfied. A green BRI will be attractive to a more diverse array of investor capital. The BRI is at a pivotal point, to become a useful tool to lock in sustainable, low carbon technology to aid the financing of infrastructure and development projects for decades to come while ensuring access to diverse funding from international investors. We believe the goals of sustainability and economic development are achievable and will increase investment and resilience of projects in the BRI.

14 https://www.reuters.com/article/us-europe-windpower-envision/envision-energy-to-spend-1-1-billion-on-europe-expansion-ceo-idUSKCN11X1MV

15 Such as the disastrous Mattala Rajapaksa International Airport project in Sri Lanka, which after US$209m of investment attracts on average less than 50 passengers per day.

16 PwC: "Repaving The Ancient Silk Routes" (June 2017)

17 http://www.eib.org/attachments/press/white-paper-green-finance-common-language-eib-and-green-finance-committee.pdf

18 http://www.valuewalk.com/2017/12/china-road-eurasia-dominate/

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