



Green  
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中国金融学会绿色金融专业委员会  
Green Finance Committee, China Society for Finance and Banking



# GREENING THE BELT AND ROAD





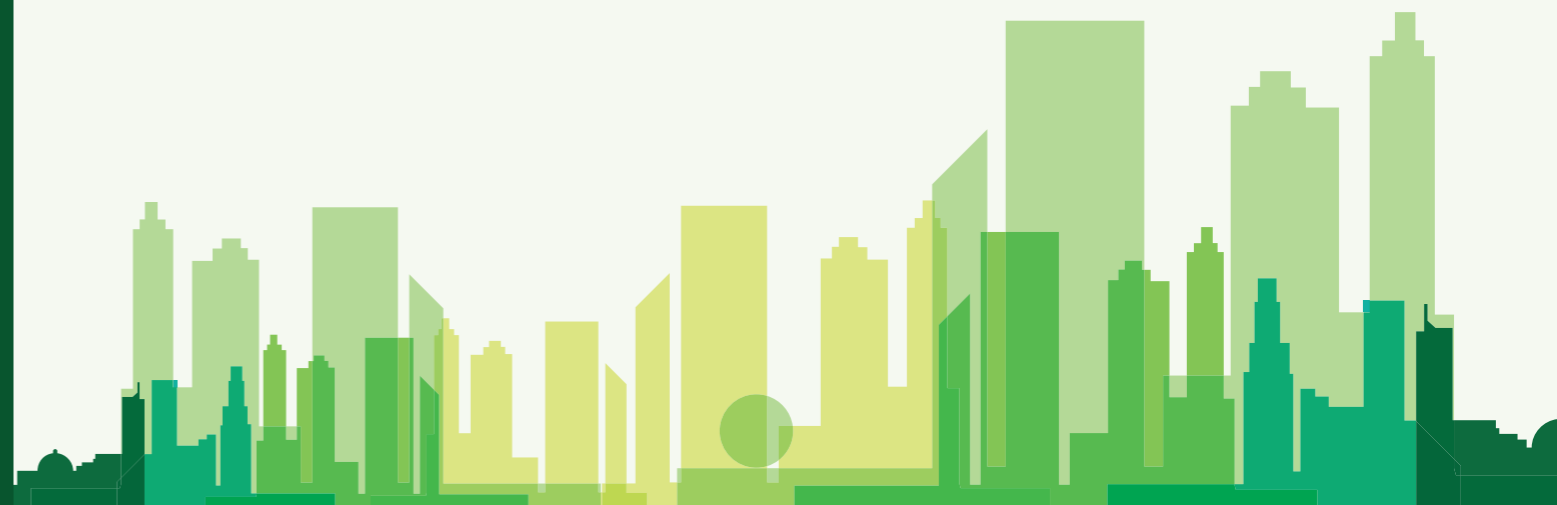
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# GREENING THE BELT AND ROAD



**DR. MA JUN,  
CHAIR,  
CHINA GREEN  
FINANCE COMMITTEE**

*We need to work with the international finance community to encourage private investment in the BRI.*

Green investment in China is a recent development and a very welcome one, given the growing urgent global need to deliver environmentally responsible financing. I am pleased that during China's G20 presidency in 2016 we prioritised a global push to promote green finance, and published green financial system guidelines.

Looking forward, the Belt and Road Initiative provides a timely platform for the delivery of green finance to help meet the estimated \$22.6 trillion infrastructure funding gap required until 2030 in Asia and the Pacific. Neither China nor the public sector is going to fill this gap alone, and we need to work with the international finance community to encourage private investment in the BRI.

It is extremely encouraging to observe my colleagues in China and London working together to provide recommendations on bridging this finance gap while ensuring green finance principles are adhered to, and acknowledging the importance of a transparent monitoring body and a transparent market. I look forward to the next steps of Greening the Belt and Road Initiative.

**SIR ROGER GIFFORD,  
CHAIR,  
CITY OF LONDON GREEN  
FINANCE INITIATIVE**

*An initiative of this size and scale provides plenty of challenges and opportunities, including those of raising capital, managing risk and ensuring that clear standards and principles are upheld.*

Green finance will play a key role in addressing the environmental impact of the Belt and Road initiative, a monumental development strategy which touches 65 countries and almost two thirds of the world's population. An initiative of this size and scale provides plenty of challenges and opportunities, including those of raising capital, managing risk and ensuring that clear standards and principles are upheld.

London is the natural Western end of the Belt and Road, and has a reputation for innovation and thought leadership: it has a global investor base and world-class clusters of expertise, and is the leading Western hub for RMB business. The London stock exchange also boasts the most comprehensive specialist green bond offering of any global exchange in the world.

As a green finance hub, and a leading global financial centre, London is well placed to lend support. I am thrilled that the UK's Green Finance Initiative and China's Green Finance Committee are collaborating to work together on this inspiring and visionary project and am confident this will be the first of many steps we take together to create a market for Green Belt and Road Initiative financial instruments.

# EXECUTIVE SUMMARY

**LAN HONG,  
RENMIN UNIVERSITY  
OF CHINA,  
CHINA CHAIR,  
GREENING THE  
BELT AND ROAD**

We are delighted to deliver this report on Greening the Belt and Road that brings together thinking from the City of London Corporation in the UK and Renmin University in China on two significant initiatives of our lifetime: the Belt and Road and green finance.

**SHERRY MADERA,  
CITY OF LONDON  
CORPORATION,  
UK CHAIR,  
GREENING THE  
BELT AND ROAD**

The Belt and Road initiative (BRI) is an ambitious and expansive opportunity to address Eurasian infrastructure needs to build future prosperity. The financing and delivery of projects across such a diverse set of countries and economies holds both opportunities and challenges.

There is a match between Belt and Road projects and green financing to mitigate long-term environmental effects. COP21 commitments will require vast investment in green infrastructure, and the public sector cannot be solely relied on to provide this. Developments in the green finance sector will align closely with BRI finance requirements - harmonising the existing range of standards and principles to define a green BRI investment will be essential. A harmonised green definition will support efficient public and private investment by lowering costs of capital, increasing transparency, developing commonality in investment criteria and ensuring effective transitional finance. Greening the Belt and Road is a critical path to the initiative's success.

*A harmonised green definition will support efficient public and private investment by lowering costs of capital, increasing transparency, developing commonality in investment criteria and ensuring effective transitional finance.*

This paper reviews the benefits of a pan-BRI country approach for financial and environmental sustainability. It highlights the role and importance of Multilateral Development Banks (MDB's) to cover early stage risks, and the vital need for them to crowd-in private capital. Scaling up risk mitigation products and expanding participants, including geopolitical risk, and standardising green finance standards will create clarity and focus for investors. Our proposed goal is the eventual creation of a market for green BRI financial instruments, which would result in more opportunity to price BRI projects at all phases, and lower financing costs. As an accelerator, the paper recommends the establishment of a BRI Green Investor Alliance to take forward more detailed work on making Green investment in the BRI more efficient.

The UK and China are committed to working together as world leaders in green finance<sup>1</sup>. Green Finance underpinning Belt and Road financing is a critical part of this collaboration.

<sup>1</sup> China is the largest issuer of climate-aligned bonds in the world (36% of global share), and the UK is the third-equal largest issuer of climate-aligned bonds in the world (9% of global share) (tied 3rd with France after China and the USA). Bonds and Climate Change, July 2016, p. 15 (<https://www.climatebonds.net/files/files/CBI%20State%20of%20the%20Market%202016%20A4.pdf>)

# THE BELT AND ROAD INITIATIVE

65+

countries

69%

of the world's population

29%

of the world's economy



Washington

UNITED STATES OF AMERICA

## The role and status of Multilateral Development Banks is crucial in financing BRI projects, to cover risks and to crowd-in private capital.

Six MBDs have formally agreed to support the BRI by signing an Memorandum of Understanding with the Chinese Ministry of Finance in 2017 that will strengthen international cooperation.



The MBDs that have signed an MoU with the Ministry of Finance of China at the Belt and Road Summit (May 2017) are headquartered across the globe. They are:

- Asian Development Bank** (Philippines)
- Asian Infrastructure Investment Bank** (Beijing, China)
- European Bank for Reconstruction and Development** (London, UK)
- New Development Bank** (Shanghai, China)
- World Bank** (Washington, USA)
- European Investment Bank** (Luxembourg)

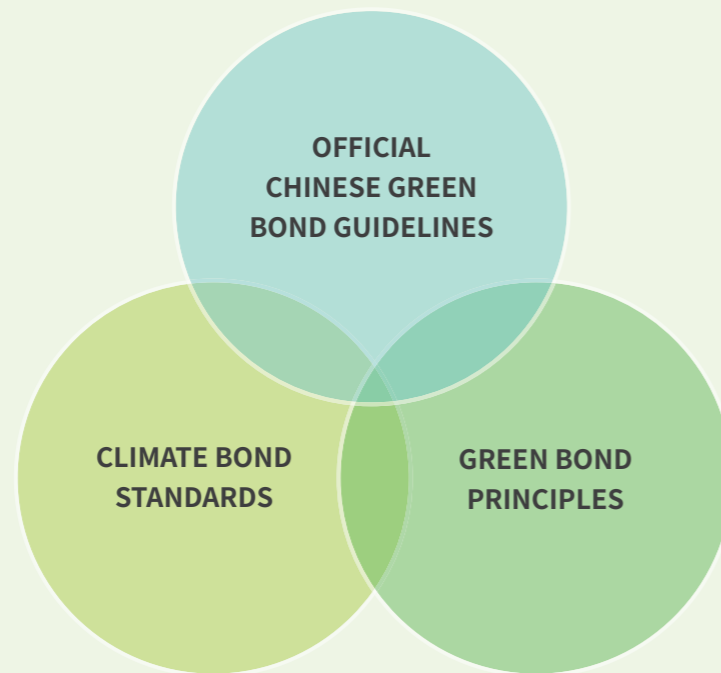


Source: Xinhua List of deliverables of Belt and Road Forum, 15 May 2017, and European Investment Bank press release, 16 May 2017).

## STANDARDS FOR GREEN BONDS

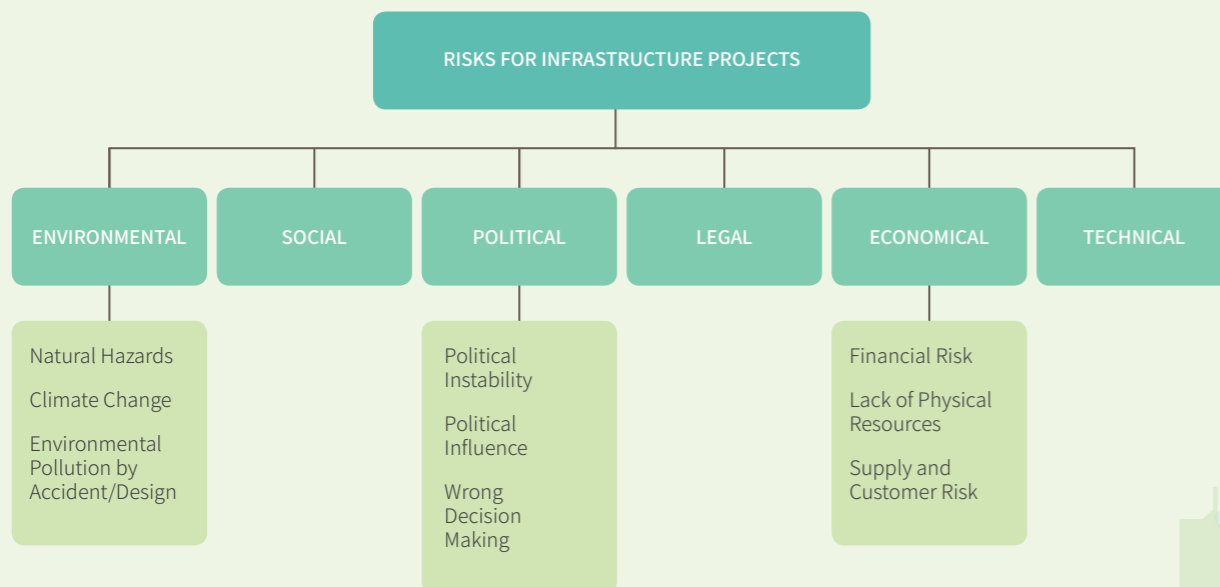
There are various metrics to certify bonds as green, including the Green Bond Principles managed by ICMA, Climate Bond Standards managed by the Climate Bonds Initiative, and the official Chinese Green Bond Guidelines managed by the People's Bank of China.

**Standardising green principles would allow investors to focus on project pricing and financing.**



## RISK FOR INFRASTRUCTURE PROJECTS

Political, economical and environmental risks are all complex challenges for BRI projects. **More can be done to create opportunity for significant market development in political risk insurance.**



## INTRODUCTION

*Effective deployment of capital to this initiative to ensure green financing principles are prioritised is globally important.*

*Given the scale and ambition of the BRI, it is impossible to rely only on public finance to meet global needs.*

The Belt and Road Initiative (BRI) is an ambitious project that can improve the connectivity, infrastructure and trade opportunities touching at least 65 countries and affecting 69% of the world's population and 29% of the world's economy. Effective deployment of capital to this initiative to ensure green financing principles are prioritised is globally important.

The IEA estimates that \$89tn in infrastructure investment is required by 2030 along with \$4.1tn in incremental investment for transitioning to a low-carbon economy<sup>1</sup>. Despite the creation of some new players backed with c\$200bn of public funds so far, such as AIIB (\$100bn), China's Silk Road Fund (\$40bn), New Development Bank (previous BRIC bank –\$50bn from a \$100bn goal), UN Green Climate Fund and the UK's GIB (c £3.4bn committed), given the scale and ambition of the BRI, it is impossible to rely only on public finance to meet global needs. Private capital must be 'crowded in' to projects and align with other sources of financing including government finance, guarantees, multilateral development banks (MDBs) and policy banks.

This 'crowding in' not only increases the amount of capital available for funding the BRI, but it also results in greater efficiency of capital. Releasing capital that is willing to take higher risks at the early stage of an infrastructure project allows that capital to be reinvested in a new project that requires this risk appetite. Thus an efficient engine for financing BRI projects is created.

In order for this efficiency to drive forward investments in the BRI, investors must plan for the financial sustainability of a project through its lifecycle. This sustainability must not be limited to structuring financial obligations, but must also have green finance principles at their core. This will ensure that projects are defined as environmentally sustainable from the outset in a way that meets a common definition of green financing for all the investors that may be involved during a multi-decade long project. This will serve to minimise the risk of stranded assets and aborted projects, maximise financial efficiency and secure our environment's future. This is why Greening the Belt and Road is so important.

Source: Cambridge Institute for Sustainability Leadership – <http://www.cisl.cam.ac.uk/publications/publication-pdfs/cip-risk-mapping-for-infrastructure-projects.pdf/view>

<sup>1</sup> Energy Technology Perspectives, IEA 2012

## DEFINING THE BRI FOR GREEN FINANCE PLANNING

*A BRI project itself reflects a long term infrastructure investment.*

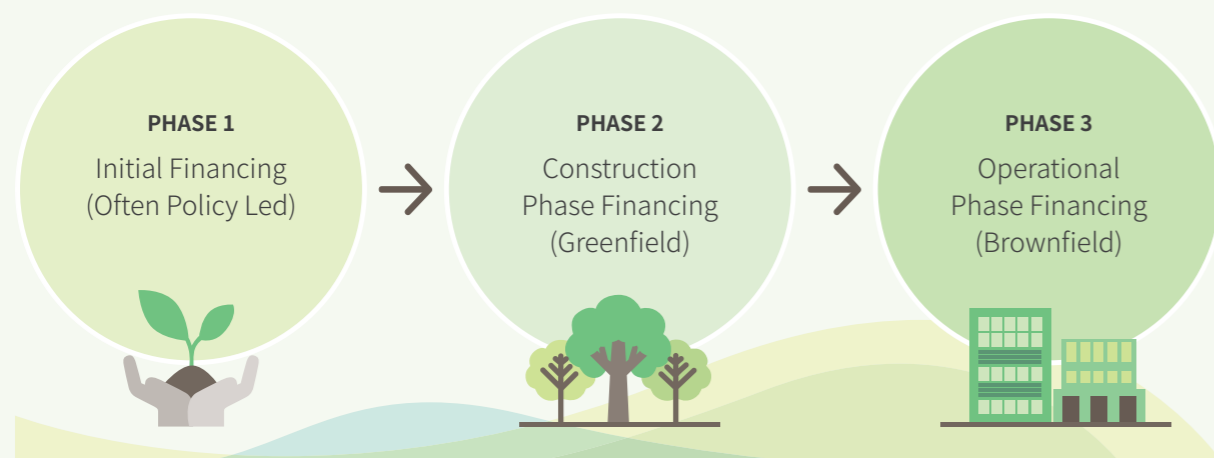
The BRI's scope is astounding. The countries included (see appendix) share a common history as part of the ancient silk roads and maritime trade routes but do not share common risks for infrastructure projects. Many of the countries are developing countries that are in particular need of infrastructure investment, but also have the highest geopolitical risk. Other countries are more developed and have a more secure risk profile. Even the types of infrastructure projects in each country vary widely. These differences impact the ability for investors to categorise BRI projects as an asset class and compare investment opportunities efficiently.

An important difference between countries and projects in the BRI are the standards and principles of green finance being applied in different jurisdictions. Currently, BRI projects are being defined primarily by geography (i.e. is the project in a country identified in the BRI) and if they are an infrastructure project (see appendix). In a majority of BRI projects, the investors include multilateral development banks (MDBs), policy banks, and Chinese and international commercial banks.

*An important difference between countries and projects in the BRI are the standards and principles of green finance being applied in different jurisdictions.*

A BRI project itself reflects a long term infrastructure investment. This can be broken down into phases: initial financing (often policy-led), construction phase financing (greenfield), and operational phase financing (brownfield). In developing economies, initial financing is particularly speculative and is often deemed essential to include a public sector de-risking party such as an MDB, government or policy bank in order to start the project. Other interested parties for BRI infrastructure investments include commercial banks, asset managers, pension funds, insurance companies and corporate investors.

## A LONG TERM INFRASTRUCTURE INVESTMENT



## PHASES OF INFRASTRUCTURE PROJECTS AND THEIR CHARACTERISTICS<sup>2</sup>

PLANNING	<b>Economic And Contractual Issues</b>	<b>Financial Characteristics</b>	<b>Potential Investors</b>
	Contracts are written in the planning phase and are crucial to the success of the projects. The planning phase can take a long time (10 to 30 months) and the involved parties may attempt to renegotiate contract commitments. Ratings from rating agencies are important to secure interest from debt investors, as are credit insurance or government guarantees.	The procuring authority needs to find equity investors. The equity sponsor needs to secure commitments by debt investors (mostly banks). Given the long planning period, early commitments by debt investors come at a high cost. Leverage can be high (10:1 or more).	Equity sponsors need a high level of expertise. They are often construction companies or governments. In rare cases, infrastructure funds (Australia, Asia) or direct investments by pension funds (Canada) may be involved. Debt investors are mostly banks through syndicated loans. Bond financing is rare, as projects carry high risks in the initial phases.
CONSTRUCTION	<b>Economic And Contractual Issues</b>	<b>Financial Characteristics</b>	<b>Potential Investors</b>
	Monitoring incentives are essential. Private involvement (as opposed to purely public investment) can ensure this.	This is a high risk phase. Unexpected events are likely due to the complexity of infrastructure projects. Default rates are relatively high. Initial commitments by debt-holders must extend far beyond this stage, as a project does not generate cash flows in this phase.	Refinancing or additional financing is very difficult and costly at this stage. Equity sponsors may have an incentive to provide additional finance if risks materialise.
OPERATIONAL	<b>Economic And Contractual Issues</b>	<b>Financial Characteristics</b>	<b>Potential Investors</b>
	Ownership and volatility of cash flows due to demand risks are key. Models such as flexible-term present value contracts and availability-based fees reduce volatility, risk and financing cost, but have adverse incentive effects.	Positive cash flows. The risk of default diminishes considerably.	Refinancing of debt (bank loans) from the initial phase. Bonds are a natural choice, but they are not very common. Refinancing with bank loans or government funds is common.

## LINKING GREEN FINANCING TO THE BRI PROJECT LIFECYCLE

*We need MDBs to crowd-in private capital, rather than crowd it out with concessional financing.*

The role and status of an MDB is crucial here. First, we need to have a consistent, ideally standardised, and harmonised approach for credit support and scalable credit enhancement programs that have global appeal. MDBs should act to cover risks that the private sector is not realistically able to cover (i.e. credit enhancement, guarantee programmes, FX, etc.).

Secondly, we need MDBs to crowd-in private capital, rather than crowd it out with concessional financing. We need therefore to:

Foster the complementarities (rather than create competition) between different sources of capital.

Increase the number of national projects eligible for Project Bonds Credit Enhancement (PBCE) in order to develop investor appetite for infrastructure asset.

Third – homogenise and also scale up risk mitigation products such as political risk, regulatory risk and in particular develop scalable products around long-dated FX risk.

Furthermore, environmental risk is central to assessing a BRI project from inception particularly from the perspective of an MDB or government whose policy is to adhere to green financing principles. MDBs consider a range of environmental factors including policy, market and technological (what the Financial Stability Board (FSB) has termed transition risk) and environmental factors such as force majeure events (physical risk), all of which can impact the financing of BRI projects.

There are various green metrics and benchmarks utilised to certify bonds as green, notably the Green Bond Principles,<sup>3</sup> managed by the International Capital Markets Association (ICMA) and the Climate Bond Standards<sup>4</sup> run by the Climate Bonds Initiative (CBI). China has a Catalogue for green bonds which is used for the vast majority of Green bond issuances in China. These are all accepted by various market players and indeed ICMA's standards have project categories that include clean transportation and sustainable water management which are particularly applicable to BRI.

The challenge is that not all investors wishing to participate in the BRI – even within the investor categories listed above – have a single set of principles they all agree defines a green investment. A case in point is a clean coal project in Pakistan which is invested in by a Chinese MDB, policy bank or commercial bank. This would be considered Green by Chinese Catalogue standards, but would not be considered Green under international standards (e.g. CBI or ICMA standards). The potential risk may not be understood

*With a common green BRI language, principals and criteria investors will be able to focus on the project pricing and financing.*

at the initial phases of the investment, but as the project moves through its lifecycle, the opportunity to crowd in international private capital and release MDB or government led funds may be impeded should later investors apply other international green standards as a requirement for investment.

In addition, there are also specific standards pertaining to green infrastructure finance such as the Equator Principles<sup>5</sup> for project finance. Similarly, the China City Development Foundation is keen to develop their Green Infrastructure Finance Accreditation (GIFA) principles, which could be a mechanism for aligning on standards specific to BRI projects.

Therefore to increase standardisation, help lower costs and increase transparency and certainty, there is a need to triangulate between these various standard setters to agree a common framework for green BRI infrastructure finance. These should recognise the needs of international, national and municipal level projects and their typical investors. With a common green BRI language, principals and criteria investors will be able to focus on the project pricing and financing rather than time spent on rationalising green finance definitions.

## GEOPOLITICAL RISK ON THE BRI

*The size and breadth of the BRI funding requirements are too big for Sinosure alone to underwrite.*

In addition to vanilla risks such as construction, completion and financing, a key challenge to BRI projects remains the political risk in the developing countries along the BRI. These risks often require a government guarantee or policy bank approach to initiating projects.

Sinosure (China Export & Credit Insurance Corp) is currently the primary vehicle for underwriting these risks but the size and breadth of the BRI funding requirements are too big for Sinosure alone to underwrite. For example, in 2016, Sinosure underwrote \$42.6bn of risk as against \$159.4bn of construction completed.<sup>6</sup> This mismatch will have to be mitigated if capital is to be mobilised. Moreover, Sinosure is focused on insurance for overseas investment for Chinese banks, and does not easily cover syndicated debt. More needs to be done to create options that sit alongside Sinosure and create opportunity for significant market development in geopolitical risk insurance.

## CREATING A FINANCIAL MARKET FOR BRI

In order to manage liquidity risk and lower the cost of capital for investors, it will be essential to create a market for BRI debt. Public markets will be needed for capital origination, given the scale of what is required, but more significantly they are needed for recycling and securitisation. At present, it is often the case



*The challenge is that not all investors wishing to participate in the BRI have a single set of principles they all agree as the definition of a green investment.*

<sup>3</sup> See <https://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

<sup>4</sup> See <https://www.climatebonds.net/standards>

<sup>5</sup> See <http://www.equator-principles.com/>

<sup>6</sup> China City Development Foundation, private presentation, 2017

that capital markets are not conducive to refinancing infrastructure debt.

However more could be done such that once a project is completed and is performing and yielding cash flow, equity financing of infrastructure companies and assets as well as bond financing can be encouraged. For example, an SPV could be created to issue debt and equity securities and use the proceeds to purchase infrastructure loans from the original lender. This process of securitisation allows further injections of finance without impacting the balance sheet of the originator and would even tend to reduce debt-to-equity ratios allowing it to borrow more in future. Combined with green standardisation of BRI infrastructure, it could be used to attract asset managers and infrastructure funds who want to increase their exposure in this field.

Making a decision to invest in an infrastructure project is complicated. A public market instrument needs to create an opportunity to normalise some of the variables in order to make the investment decision making process more efficient. Green standardisation is one of these elements. However, it needs to also consider other factors to make a green BRI financing market successful.

To further develop the market for BRI finance, it is essential that in addition to green standardisation, investors in BRI projects have access to the requisite credit ratings data and sufficient transparency to assess the risk in projects. Ideally all project data should be transparent, credible and assessable. In reality, however, this will only become common practice when governments and regulatory bodies enforce disclosure of such data. This means a pan-BRI country approach is required.

ICBC Standard Bank has recently launched a set of Belt and Road Economic indices<sup>7</sup> to offer investors a standardised framework to compare the investment climates and economic and political risks of individual countries across the 'Belt and Road' region. These will need to be complemented by credit ratings from globally respected rating agencies that have the capability to incorporate bespoke analysis on infrastructure and sustainability factors.

The ultimate aim of a market for green BRI financial instruments is to further develop the market for crowding in much needed private finance as efficiently and transparently as possible. It will result in more opportunity to price BRI projects at all phases and lower financing costs by providing liquidity options to investors at all stages.

## KEY RECOMMENDATIONS

*Agree to a set of harmonised standards for efficient green BRI funding across BRI countries.*

*These instruments should have the potential to be listed to create liquidity in the market and generate the necessary scale in political risk underwriting.*

### 1. MDBS ARE CRITICAL IN BEGINNING THE FUNDING LIFECYCLE OF MANY BRI PROJECTS

A BRI Investor Alliance including a majority of MDBs should agree to a set of harmonised standards for efficient green BRI funding across BRI countries. This would need to be agreed with consultation from all interested investor groups to ensure harmonised green standards throughout the lifecycle of BRI projects. A recommended first step is to create a subset of similar risk profile geographies and infrastructure types to assess green BRI risks.

### 2. SCOPE THE REQUIREMENTS FOR A MONITORING BODY

The BRI Investor Alliance should scope the requirements for a monitoring body to help add transparency to the green BRI asset class. It should draw from existing best practice in existing standards but be bespoke to the needs of BRI investors and issuers.

### 3. RELAX THE 70% LOWER LIMIT ON CHINESE BANK PARTICIPATION

Sinosure policy should be revised to relax the 70% lower limit on Chinese bank participation in BRI infrastructure finance, to allow further expansion of the diversity of risk guarantees available and appropriate.

### 4. DEVELOP A NEW POLITICAL RISK INSURANCE VEHICLE

A new political risk insurance vehicle needs to be developed that can work with both Chinese and foreign banks to help mobilise sufficient capital. Given the scale, these instruments should have the potential to be listed to create liquidity in the market and generate the necessary scale in political risk underwriting.

### 5. PRODUCE A DEFINITION OF A GREEN BRI FINANCE INSTRUMENT

It is recommended that a definition of a green BRI finance instrument is created to build a transparent market for primary and secondary issuance against a defined criteria driven by investor demand.

*A public market instrument needs to create an opportunity to normalise some of the variables in order to make the investment decision making process more efficient. Green standardisation is one of these elements.*

<sup>7</sup> ICBC, Belt and Road Economic Health Index and Belt and Road China Connectivity Index, 2017, see <https://www.icbcstandardbank.com/CorporateSite/BRThoughtLeadership>



# APPENDIX

## LIST OF BRI COUNTRIES ACCORDING TO CHINA INTERNATIONAL TRADE INSTITUTE

EAST ASIA (2)	CENTRAL ASIA (5)	SOUTHEAST ASIA (11)	SOUTH ASIA (8)	EUROPE (24)	MIDDLE EAST AND NORTH AFRICA (15)
China Mongolia	Kazakhstan Kyrgyzstan Turkmenistan Tajikistan Uzbekistan	Brunei Cambodia Indonesia Laos Malaysia Myanmar Phillipines Singapore Thailand Timor-Leste Vietnam	Afghanistan Bangladesh Bhutan India Maldives Nepal Pakistan Sri Lanka	Albania Armenia Azerbaijan Belarus Bosnia and Herzegovina Bulgaria Croatia Czech Republic Estonia Georgia Hungary Latvia Lithuania Macedonia Moldova Montenegro Poland Romania Russia Serbia Slovakia Slovenia Turkey Ukraine	Bahrain Egypt Iran Iraq Israel Jordan Kuwait Lebanon Oman Palestine Qatar Saudi Arabia Syria United Arab Emirates Yemen

### CATEGORIES OF INFRASTRUCTURE PROJECTS

In terms of category of project, they could include but are not limited to:

- railways, high-speed and freight;
- telecommunication networks;
- port infrastructure, including cargo hubs and “dry ports”;
- rural infrastructure and agriculture development;
- urban development and logistics;
- clean energy infrastructure; and
- water supply and sanitation.

*The credibility of English law could be leveraged to provide the necessary arbitrary functions.*

The latest International Finance Corporation (IFC) report on green finance including the follow categories, as prioritised by respondents:

- Adaptation (conservation, biosystem adaptation).
- Carbon capture and storage.
- Energy efficiency (cogeneration, smart grid).
- Environmental protection (pollution control, prevention, and treatment).
- Green buildings.
- Green products and materials.
- Renewable energy (solar, wind, hydro).
- Sustainable land management, (sustainable agriculture, forestry).
- Transport (urban rail/metro, electric, hybrid).
- Waste management (recycling, waste management).
- Water (water efficiency, wastewater treatment).

The key issue is having a credible regulatory/monitoring body to measure the short, medium and long term ‘green’ KPIs in accredited projects, and to penalise project owners if the benchmarks are not met. The credibility of English law could be leveraged to provide the necessary arbitrary functions.

### CHARACTERISTICS FOR PROJECT FINANCE DEBT

The Bank for International Settlements (BIS) has set out five characteristics for investors in project finance debt that have applicability to BRI financing.

1. Financial strength of project company.
2. Political and legal environment.
3. Transaction characteristics (including design and technology risk).
4. Strength of sponsor.
5. Security package (contracts, accounts, escrow accounts, covenants, reserve funds etc).

## ACKNOWLEDGEMENTS

We would like to thank the following organisations for sharing their experience, case studies or other content for this report. (The views expressed do not necessarily represent the views of these organisations):

The City of London Corporation (UK Chair)

Renmin University of China (China Chair)

Agricultural Bank of China

ARUP

Clifford Chance

HSBC

ICBC Standard

International Capital Market Association (ICMA)

IFC





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