China Third-Party Market Cooperation for Infrastructure Projects: Financing Mechanism Handbook

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中央财经大学绿色金融国际研究院
International Institute of Green Finance, CUFE

Research Team

Dr. Christoph Nedopil

Mengdi YUE

Sarah Yingzhi TANG

Dr. Yang YUE

In addition, Zhengyun ZHOU, Mengyan ZHANG, Vivian WU and Qianyi LIU contributed to the research, translation and proofreading of this report.

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Ms. GU Rongrong, Sinosure
Mr. JIN Wenshuo, Shandong Hi-speed Nile Investment and Development Corporation
Mr. LI Lei, China Civil Engineering Construction Corporation
Mr. LI Zhiyong
Mr. LIU Weifeng, China Machinery Engineering Corporation
Mr. LU Ming, Bank of China Singapore
Mr. SUN Shengyang, China Railway International Corporation
Ms. WEN Siwen, Export–Import Bank of China
Mr. YOU Hongming, TrinaSolar

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Executive Summary

Project finance is an important tool for closing the global infrastructure gap estimated at USD15 trillion by 2040. Over the past years and with its engagement in the "Belt and Road Initiative" (BRI), Chinese companies and financial institutions have become some of the most important contributors to global infrastructure projects. At the same time, infrastructure development in the post-COVID-19 era requires an acceleration of international cooperation to finance infrastructure projects with a focus on sustainability concerning social inclusion, environmental protection and sovereign debt. While project finance is already highly complex, due to the diverse risks (e.g. technical, legal, political, environmental, social) that can arise over the decades while a project is being implemented, the numerous different interests of involved parties in projects and the various operating models (e.g. "BOT", "BOO", "DBFO") that require different capabilities, international project finance that engages parties from different countries with different expectations is even more challenging.

This handbook is intended to bridge the gaps between Chinese and international project finance instead of challenging or elaborating on either Chinese or international project finance best practices. Given this goal, the handbook first provides descriptions of current Chinese and international practices in infrastructure project finance (See Appendix), and identifies 8 major gaps between these two practices through a gap analysis (Figure 1):

1. Ways of project initiation: A small number of Chinese-led infrastructure projects were initiated by G2G channels and thus are hard to co-finance with international investors;

2. Approaches to risk analysis and identification: International project finance requires a more exhaustive analysis of risks with higher granularity.

3. Approaches to Environmental and Social Impact Assessment (ESIA): International FIs often have higher requirements on the environment and social risk due diligence.

4. SPV governance: Differences exist in the independence of the oversight, political risk considerations, and understanding of conflicts of interest.

5. Sources of financing: International project finance usually has complex structures that include diverse sources of financing and more private participation.

6. Role of guarantees: Guarantees in Chinese project finance are often used as a "safety net" for general unclear risks instead of addressing specific risks.

7. Environmental and Social Management System (ESMS): A project-level ESMS, including an effective grievance mechanism, is lacking in most Chinese projects.

8. Environmental and social reporting and disclosure: E&S reporting and disclosure are more common in international project finance, mainly because they are required by international lenders and investors.

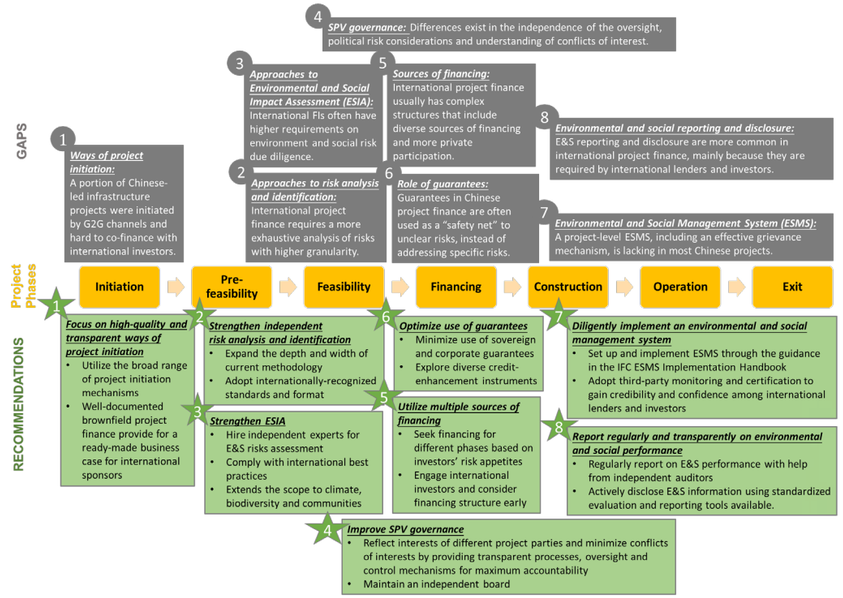


Figure 1 Gaps and recommendations for Chinese and international infrastructure co-financing

To address the gaps identified above, 8 recommendations are developed to accelerate international project finance with Chinese participation (Figure 1). These recommendations address Chinese project sponsors interested in attracting international capital in overseas infrastructure projects, but are also applicable to international partners interested in engaging Chinese companies and financial institutions.

The recommendations are based on extensive literature research, interviews and workshops with experienced practitioners from Chinese companies and financial institutions engaged in overseas project development, as well as with international financial institutions. The recommendations aim to close the identified gaps along the project finance lifecycle:

Recommendation 1: Focus on high-quality and transparent project initiation, utilising a broad range of project initiation mechanisms, such as project initiation facilities or early-stage project developers;

Recommendation 2: Strengthen independent risk analysis and risk identification early in the project development stage to better allocate risks to relevant partners;

Recommendation 3: Strengthen environmental and social impact assessment (ESIA) to not only obtain a local ESIA license but to clearly reduce the environmental and social risks of projects;

Recommendation 4: Improve governance of Special Purpose Vehicles (SPV) to reflect the different interests of the project stakeholders and minimise conflicts of interests, by providing transparent processes, oversight, and control mechanisms;

Recommendation 5: Utilise multiple sources of financing in different project phases, from early-stage financing through loans, export credits and equity to later stage financing through, e.g., project bonds or

institutional debt funds;

Recommendation 6: Minimise use of sovereign and corporate guarantees, explore diverse credit enhancement instruments;

Recommendation 7: Diligently set up and implement an environmental and social management system including an early warning system and a grievance mechanism in order to be able to quickly react to risks and events in a consistent and strategic manner;

Recommendation 8: Report regularly and transparently on environmental and social performance, ideally prepared by independent consultants and auditors.

By incorporating these recommendations, three interrelated advantages could be generated to accelerate international infrastructure project finance:

- Better identification and management of infrastructure project risks;
- Improvement of ecological and social sustainability of projects;
- Reduction of sovereign debt risks, particularly in emerging markets.

While infrastructure project finance will remain one of the more complex forms of financing, not only in emerging economies, we hope to provide some relevant guidance to reduce risks and increase opportunities through international cooperation and to allow for a new era of sustainable infrastructure development.

1. Introduction

Global infrastructure investments continue to trail behind global infrastructure finances needs: According to the Global Infrastructure Hub (GI Hub) calculations, the world faces a USD 15 trillion investment gap in infrastructure by 2040[1]. In different infrastructure sectors, the estimates range from an infrastructure investment gap of about USD 125 billion per year for energy to USD 329 billion in road infrastructure, USD 40 billion in communication and around USD 30 billion in water (see Figure 2).

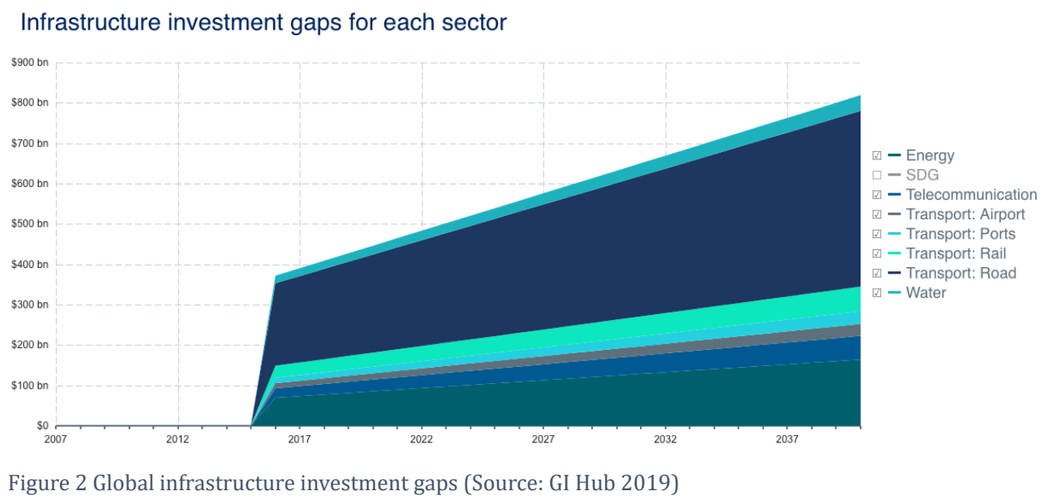


Figure 2 Global infrastructure investment gaps (Source: GI Hub 2019)

Up to 60% of infrastructure investment demand is in emerging markets. UNESCAP estimates that in the developing countries of Asia and the Pacific alone, an additional USD 900 billion per year of infrastructure investments are needed[2].

Over the past years, China has become one of the most important sources of infrastructure funding in the developing world through its Belt and Road Initiative (BRI). Since 2013, China has financed about USD 750 billion in BRI projects, particularly in the energy and transport sector (see Figure 3)[3]. Yet, it is still far from closing the infrastructure investment gap.

1 Global Infrastructure Hub (GI HUB), "Global Infrastructure Outlook - A G20 INITIATIVE," Global Infrastructure Hub (GI HUB), 2019, https://outlook.gihub.org/.

2 United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), "Infrastructure Financing for Sustainable Development in Asia and the Pacific," ESCAP Financing for Development Series (Bangkok: United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), 2019), https://www.unescap.org/sites/default/files/publications/Infrastructure%20Book.pdf.

3 Christoph Nedopil Wang, "China's Investments in the Belt and Road Initiative (BRI) in 2020: A Year of COVID-19" (Beijing: Green BRI Center, International Institute of Green Finance (IIGF), January 2021).

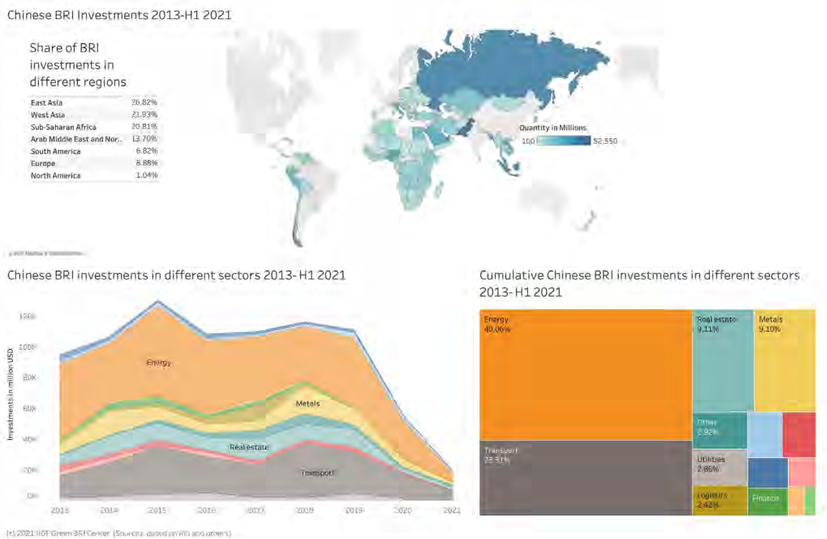


Figure 3 Chinese investments in the Belt and Road Initiative (BRI) from 2013 to 2020 (Source: IIGF Green BRI Center 2021)

Thus, to mobilise financing for infrastructure in emerging markets, it is paramount to deepen international cooperation between relevant stakeholders, including private investors, in infrastructure finance. Cooperation will not only allow for better distribution of resources and less friction (e.g., in the application of technology and process standards) but also result in better utilisation of existing capacities and capabilities of different developers and financial institutions involved in infrastructure finance.

This document serves as a handbook for Chinese companies (including state-owned enterprises and private companies) to apply project finance in overseas infrastructure projects, especially in emerging markets. It particularly aims to facilitate the cooperation between Chinese companies, Chinese and international financial institutions in third markets. The handbook is based on desk research, expert interviews and focus groups and an in-depth comparison between current Chinese and international infrastructure finance practices across the project pipeline.

Built on many existing publications on project financing[4], this report focuses particularly on the "gaps" between international and Chinese practices when financing infrastructure projects in emerging markets and how these gaps can be closed to accelerate international co-financing.

Accordingly, Chapter 2 introduces the key principles of project finance, operating models in PPP and a brief overview of international cooperation on project development in the Belt and Road Initiative. Chapter 3 conducts a gap analysis between Chinese and international project finance and identifies eight gaps along the lifecycle, and Chapter 4 proposes eight practical recommendations for closing these gaps. Chapter 5 introduces new financing mechanisms for facilitating Chinese and international co-financing in infrastructure in emerging markets.

4 E.g., Project Finance Applications and Insights into Emerging Markets Infrastructure by Clifford (2021), Guide to Project Finance by Denton (2018), the Public-Private Partnership Reference Guide (2014) by The World Bank, Asian Development Bank and Inter-American Development Bank, and Guide to Infrastructure Financing in Asia (2016) by ASIFMA and ICMA

2.Project finance to close the infrastructure investment gap

Infrastructure investments require a financing mechanism to pool expertise and finance from multiple parties while limiting different types of projects, sector and country risks and maximising both returns and infrastructure delivery. The most important and successful mechanism to achieve that goal is project finance. The concept of non-recourse is ancient – e.g., it was already used by merchants and ship owners to finance and share risks for conducting sea voyages for overseas trading. Project finance became an important tool in the 20th century, e.g., to develop oil fields in the US and the UK. This form of financing is thus different, for example, from financing a project through corporate financing (e.g. through a corporate loan), where the borrower would take on liability beyond the project.

Project finance is used to provide initial capital (equity and debt) to finance the construction and operation of a future asset, potentially over a timeframe of decades. The return to investors and lenders is based solely on the cash flows of the project without resorting to overarching guarantees (e.g. sovereign guarantees) or taking security over other assets unrelated to the project.

To that end, in assessing a project, investors and lenders need to use a very detailed and rigorous financial analysis (model) of the project and will be concerned to ensure any risk factors that could affect their projected returns are identified, equitably allocated and mitigated. Therefore, risk management is the key in project finance.

2.1 Why project finance?

Typically, project finance involves a high proportion of debt to develop the project, and repayment of the loan (and other financings) through the revenues generated by this project. As the lender providing the debt in project finance has limited or no claim against the parent company of the project (e.g. due to the creation of a special purpose vehicle – SPV), project financing is a form of "limited recourse" or "non-recourse financing".

Project finance aims to reduce and manage risks, while maximising returns and infrastructure development. It allows project owners and sponsors to:

· Raise relevant funds to also pay for the high transaction costs in the project preparation, which can represent, on average, between 3% to 5% of the total project costs;

· Reduce information gaps by maximising due diligence on a specific project through independent consultants, insurance/legal/financial advisors, reporting and controls;

· Reduce principal-agent conflicts due to the high leverage rate of projects, requiring project cash flows to stay within the project structure and be paid to lenders first in the cash flow waterfall, reducing

cash-flow diversion actions;

· Reduce financial distress of project owners, as project debt is ideally off-balance sheet (although project owners rarely 'walk away');

· Allow for financing flexibility, with different sources and instruments of finance (e.g. senior debt, junior debt, mezzanine debt, equity, export credits) to adjust for the project's idiosyncratic risks and needs;

In most developing market projects and in other projects with significant construction risk, project finance is generally of the limited-recourse type. In such cases, financial institutions providing loans to the project require guarantees that address specific risks and ensure the project's cash flows.

For Chinese companies, in particular, project finance provides a channel for financing overseas projects with international capital in cases where host governments are in debt distress and bring in high credit risks. For Chinese financial institutions, cooperation with international banks brings in the expertise on risk assessment and mitigation of the latter, lowering the risks for themselves.

2.2 Key components of project finance

This section compiles and describes relevant concepts of project finance, including parties involved in project finance and major concepts.

2.2.1 Project phases

For projects to get off the ground, they typically go through several phases, each with their own goals and process steps. With the goal to study project financing and the possibility of tripartite cooperation in project financing, this study focuses on the following phases[5] (see Figure 4):

1. Project initiation
2. Project planning and development
    a. Pre-feasibility
    b. Feasibility
    c. Financing
3. Project management and control
    a. Construction and completion
    b. Operation
    c. Project exit
4. Reporting and disclosure (partial overlap with phases 2 and 3)

These phases are partly clearly distinguishable (e.g., as some legal licenses or financing is required to

5 Others distinguish between (1) project selection, (2) project preparation, (3) procurement, (4) project construction (4) and (5) project operation (afme Finance for Europe and International Capital Market Association (ICMA), "Guide to Infrastructure Financing" (Brussels: afme Finance for Europe, June 2015)).

actually start project construction), while other elements of these phases overlap or can be done in a different order (e.g., sometimes construction partners can already be identified in the pre-feasibility phase, at other times they might be identified in the feasibility phase or even in the construction phase).

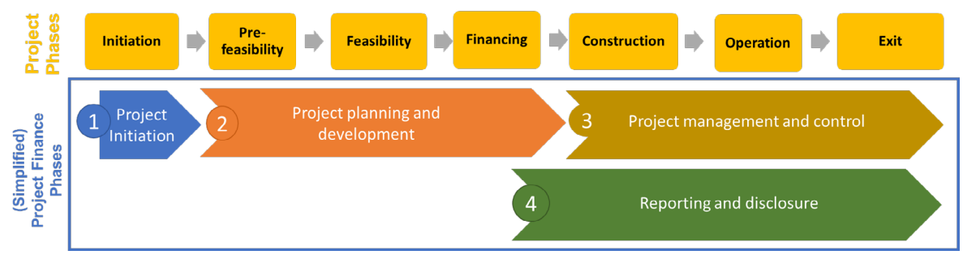


Figure 4 Project phases (based on Nedopil 2020[6])

The duration of each phase is very project specific. For example, it is not unheard of that some complex projects, for example in politically sensitive industries, might take several years from initiation to project operation. Yet, other projects can be faster to plan and implement, for example, if the stakeholders of the project have had previous working relationships in similar settings.

2.2.2 Project finance structure: a risk-sharing mechanism

Risk analysis, risk management and mitigation are core to project finance. The guiding idea of project finance risk mitigation is to allocate different types of risks to the project parties best able to bear them, so that the residual risks that remain with the project company/borrower are manageable and acceptable.[7] As financing is based on the project cash flows, project parties need to ensure that all risks have been identified and managed for the project to be financially sustainable.

Detailed risks and mitigation measures vary from one project to another, but risks in project finance can be generally classified into three categories:

1) Commercial risks inherent to the project, such as construction and completion, operation and maintenance, supply, sales and offtake, social and environmental risks;

2) Macroeconomic or financial risks, such as inflation, foreign exchange, interest rate and refinancing risks;

3) Regulatory and political risks, such as changes in law, political force majeure, war and riots, expropriation, and currency convertibility or transfer risks.

In practice, project risks are identified as early as possible to find risk management strategies and relevant partners interested in and able to take on the risks. Nevertheless, due a project's long-term nature over possibly multiple decades, risk identification and risk management remain crucial throughout the project.

To allocate responsibilities and risks to different partners in the project, the partners enter in a contractual

6 Christoph Nedopil et al., "Green Development Guidance for BRI Projects Baseline Study Report" (Beijing: International Belt and Road Initiative Green Development Coalition (BRIGC), December 2020).
7 Paul D. Clifford, Project Finance: Applications and Insights to Emerging Markets Infrastructure (Hoboken, New Jersey: Wiley, 2021).

arrangement through a "special purpose vehicles" (SPV) (less formal structures for project financing, like joint ventures, are also possible). The SPV is owned by the project's investors, and it holds all the relevant contracts with the project's creditors, off-takers, relevant licenses, etc. An SPV is typically set up as a limited company in the host country of the project. During the later stages of project preparation and structuring, the project company (SPV) operates at the centre of a network of contracts with the aim of allocating risks (Figure 5).

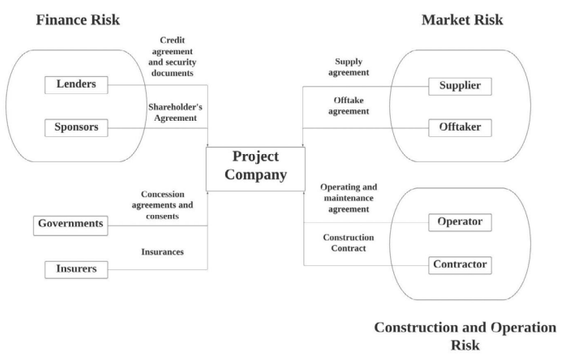


Figure 5 An illustration of risk allocation in project finance (adapted from Clifford 2021)[8]

Risk in a project needs to be allocated fairly, as one of the major reasons for project failures is an unbalanced risk or return trade-off. This requires the project owners to retain "sufficient but not excessive risks", as too much risk on the project owners' side reduces adjusted risk returns, while too much risk on the financial institution side risks making the project unsustainable. Risks should also be allocated with host governments, who are usually a key party in infrastructure projects. Allocation of risks and appropriate management allows the project to react to unforeseen and unexpected risk events.

2.2.3 Project Finance Documentation

With the project company, or the special purpose vehicle (SPV), sitting at the centre of the project, all relevant financing agreements are between the various involved parties and the SPV.

Project finance requires a package of documentation including:

- Shareholder/sponsor arrangements, such as pre-development agreements, shareholder's agreements or joint venture agreements, sponsor shareholder support agreement;
- Loan and security documents, such as project loan agreement, security document;
- Project documents, such as concession agreements or licences, construction contracts, operating and maintenance agreements, supply agreements, sales/offtake agreements.

8 Clifford.

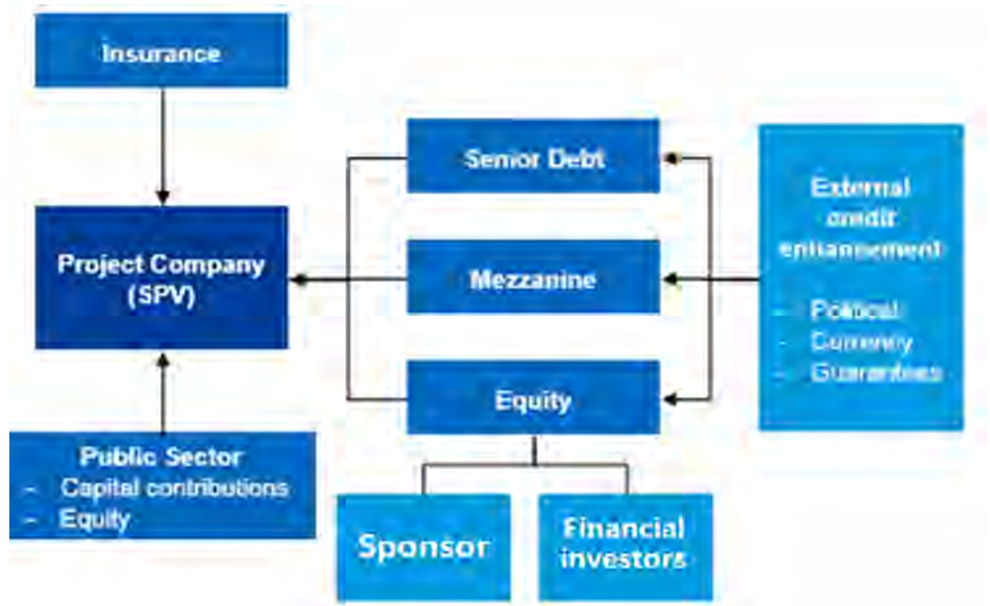


Figure 6 Typical project financing structure

The project is financed through different forms of debt (e.g., senior debt, junior debt), mezzanine or convertible debt, as well as equity (Figure 6). As project finance is characterised by a high leverage ratio (the exact debt and equity mix depends on a detailed assessment of its project cash flows and risk profile), project finance lenders typically require comprehensive covenants and security packages in four layers, which are triggered only when the project fails to go as planned (e.g., project cash flows are not sufficient):

- Mortgage interest and assignment pledges over physical project assets, contracts, and insurance policies
- Assignment of SPV shares
- Control over project revenues and cash flows via the account agreement
- Step-in rights to remedy and cure potential defaults. This also allows the lender to replace project counterparties and assign contracts to third parties.

Some agreements will also give the lenders critical protections, including

- Direct influence over the project in case of material problems
- Protection against third party claims and insurance that rank senior to other creditors
- Protection against the sale of project assets without prior lender approval

Throughout the design of the project finance structure, it is absolutely crucial to document all agreements thoroughly. The complete information allows the SPV to more easily take on new shareholders in the future or sell the SPV to external investors, where any new party will be interested in having a transparent

overview of the SPV and its agreements to evaluate risks within the SPV.

2.2.4 Parties in project finance

Besides project financiers, other parties are also relevant for the success of project finance. The identification and integration of the best parties to achieve the goals of the project while minimising the risk is crucial. Accordingly, this search for partners needs to start early in a project life-cycle, while contractual arrangements between the SPV and the parties define each party's responsibility in a project. Figure 7 shows relevant parties:

- Shareholders, which are bound to the SPV through a shareholder agreement
- Lenders, which hold a loan agreement with the SPV
- Grantors, which might provide a concession agreement (e.g. for grant, export credit)
- Construction contractor, also often referred to as EPC (engineering, procurement and construction company), which is responsible ideally for the overall construction through the construction agreement (where the construction contractor might have separate contracts with subcontractors)
- Input supplier, which holds an input supply agreement
- Operator, which is responsible for operating the SPV once operational and whose terms are defined through the operating agreement; often the operator is a shareholder of the SPV to align interests;
- Offtake purchaser, which is the main source of revenue for the SPV and whose terms is defined through the offtake purchase agreement

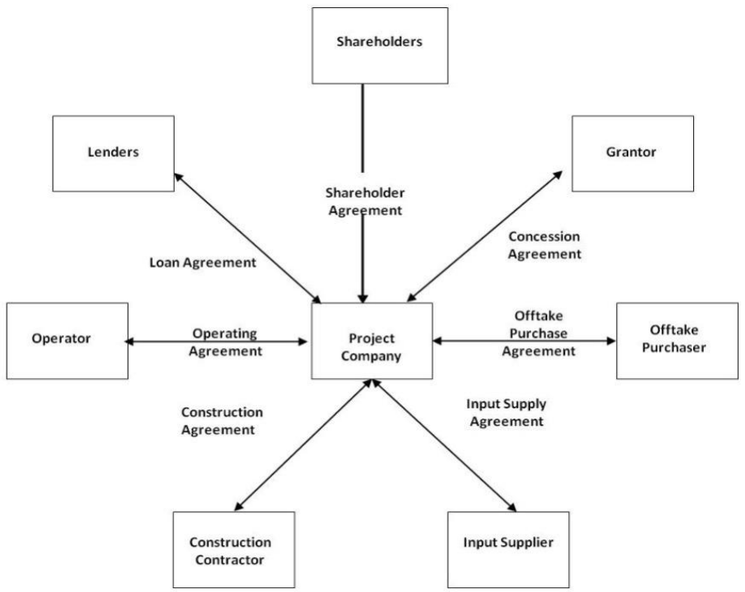


Figure 7 Main parties in project finance (Source: World Bank[9])

9 The World Bank, "Project Finance - Key Concepts," The World Bank PPP Legal Resource Center, accessed August 25, 2021, https://ppp.worldbank.org/public-private-partnership/.

Further to the core parties of an SPV, other relevant parties and roles have an important role in different stages of the project. The particularly important ones are:

- Host government or relevant authority for providing issuance of consents, permits, but also possibly as shareholders and guarantors
- (Independent) consultants, who provide relevant evaluations of the project, e.g. for environmental and social risks
- (Independent) auditors, who verify relevant information given to the contractual parties of the SPV
- Lawyers, which design legal contracts and provide legal advice (experienced lawyers are needed early on to ensure that the contracts are negotiated in a way acceptable to lenders);
- Facility agent, who is typically one of the lenders that administers the syndicated loan

2.3 Operating models in project finance

Many infrastructure projects (e.g., roads, energy projects) will involve both public actors and private partners. Such public-private partnerships (PPP) take a wide range of organisational forms, depending on the local circumstances, laws, project, and experience of the actors (see Figure 8).

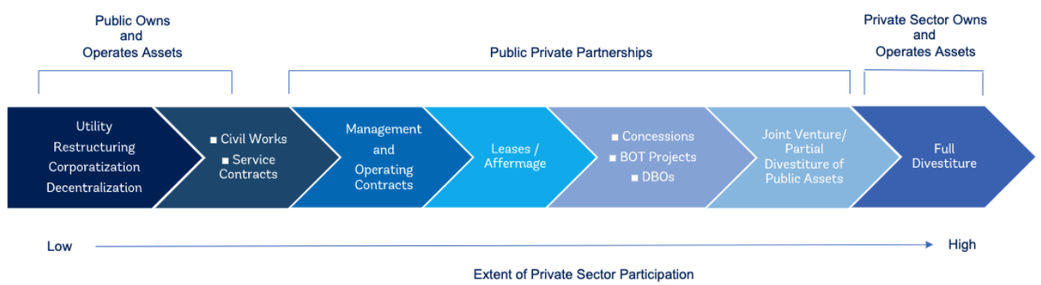


Figure 8 Public Private Partnership (PPP) agreements (Source: World Bank)[10]

Depending on the arrangement, the responsibilities and activities of the SPV within the PPP will vary, particularly in regard to risk transfer to each party, responsibilities of investments, and the control of ownership of the assets in different project stages. For example,[11]

- In a concession agreement, the public authorities would grant a concessionaire the long term right to use the specific utility assets, who would also be responsible for operations and some investments. The Government may retain the ultimate ownership of the facility and/or right to supply the services. During the concession, the concessionaire obtains most of its revenues from the customer through a direct relationship (including end-consumers), while the concessionaire pays a fee to the authority. At

10 The World Bank, "PPP Arrangements/Types of PPP Agreements," The World Bank PPP Legal Resource Center, accessed August 25, 2021, https://ppp.worldbank.org/public-private-partnership/agreements.

11 "Concessions Build-Operate-Transfer (BOT) and Design-Build-Operate (DBO) Projects," The World Bank PPP Legal Resource Center, accessed March 28, 2021, https://ppp.worldbank.org/public-private-partnership/agreements/concessions-bots-dbos.

the end of the concession, all assets revert back to the authority;

• In a build own operate transfer (BOOT)[12] project, the authority grants a right to the SPV to develop an asset (greenfield project) by the SPV. The SPV finances, owns, constructs, and operates the asset for the time of the agreement. The SPV obtains its revenues typically through a fee charged to the utility/ government (often a single off-taker), rather than e.g. from end-consumers. At the end of the project concession, the asset is typically transferred to the authority or sold to another party.

Table 1: Operating models in a PPP project

Name	Definition	Relevance
Build-Operate-Transfer (BOT)	In a BOT project, the public sector grantor grants to a private company the right to develop and operate a facility or system for a certain period (the "Project Period"), who operates it commercially for the project period, after which the facility is transferred to the authority.[1] The public authority is the sole or one of the owners of the SPV and thus provides some financing.	Suited to projects that involve a significant investment and operating content, and are widely used in infrastructure projects. BOT projects are often initiated by governments or relevant authorities.
Service Contract	Government outsources specific service provision to a private company, e.g., design, construction, maintenance or operation of infrastructure, while financing and revenues are within the government.	For small scale projects within a well-established service sector.
Build-Own-Operate-Transfer (BOOT)	A variation of BOT. In a BOOT model, the private company finances, operates and owns the project for the project period, after which the facility is transferred to the authority (often at no cost).	Especially suitable if the government has a large infrastructure financing gap. Also widely used in infrastructure projects. [2] Initiators of such projects can also be commercial project sponsors.
Build-Own-Operate (BOO)	A variation of the BOT, where the SPV retains ownership of the asset into perpetuity and can sell it to another investor; possibly also in a fully private deal without involvement of public authorities (and thus not considered a PPP).	Used depending on the local circumstances, for example when no public partner would be required or where the public authority does not require to re-take ownership.
Rehabilitate-own-operate (ROO) and Rehabilitate-Own-Operate-Transfer (ROOT)	Used for the rehabilitation of an existing infrastructure (rather than construction of a new one), but otherwise similar to BOO or BOOT.	Suitable for capacity upgrading, e.g., for roads.
Design-Build-Finance-Operate (DBFO)	The private sector provides assets, finance (debt and equity) for construction and operation. The public authority pays for the asset on completion and for the services provided. It is considered a "output-focused contract".	Used for a wide range of infrastructure projects such as road, rail, airports, and social infrastructure projects such as hospitals, schools, convention centres etc.

2.4 International cooperation on project development in the BRI

International cooperation for infrastructure projects can accelerate capital mobilisation (e.g. from various sources of commercial and development finance), as well as improve access to relevant technical capabilities – all of which help better manage risks and improve the service delivery. There have been numerous successful examples of cooperation in investment, financing, and project implementation with Chinese partners, such as the construction of a 100 MW wind park in Kazakhstan: the USD95.3 million was financed by two development banks - the London-based EBRD and the Beijing-based AIIB, the Green Climate Fund (GCF), as well as the Industrial and Commercial Bank of China (ICBC). The SPV Zhanatas Wind Power Station is owned and run by China Power International Holding (CPIH) in partnership with Visor Investment Coöperatief. The SPV is responsible for the construction and operation of the wind farm and the transit cable connecting the facility to the grid[13].

To further accelerate international project financing with Chinese partners, common standards are particularly relevant regarding green project finance to allow a global transition of infrastructure in accordance with the Paris Agreement and global biodiversity targets.

An important milestone for better cooperation between Chinese and international investors was achieved in December 2020, when the BRI Green Development Coalition (BRIGC) published the Green Development Guidance for BRI Projects (baseline study)[14]. The study, which was backed by relevant Chinese ministries and regulators (e.g., MEE, CBIRC, NDRC) as well as their affiliates, aims to guide Chinese investors and developers in reducing environmental risks in the BRI and set project finance standards that are aligned with international standards. A key element of the Guidance is the "Traffic Light System" that provides a clear and simple colour-based categorisation of projects into either green, yellow and red depending on their environmental risk and impact. Green projects have no significant harm on any of the three environmental dimensions: pollution, biodiversity and climate, and improve environmental outcomes in at least one dimension. Red projects are all projects that risk significant harm to the environment in any of

12 The World Bank, "Concessions Build-Operate-Transfer (BOT) and Design-Build-Operate (DBO) Projects," The World Bank PPP Legal Resource Center, accessed August 25, 2021, https://ppp.worldbank.org/public-private-partnership/.

13 Anton Usov, "EBRD, AIIB, ICBC and GCF Provide US$ 95.3 Million for Wind Farm in Kazakhstan," European Bank for Reconstruction and Development, October 26, 2020, //www.ebrd.com/news/2020/ebrd-aiib-icbc-and-gcf-provide-us-953-million-for-wind-farm-in-kazakhstan.html.

14 Nedopil et al., "Green Development Guidance for BRI Projects Baseline Study Report."

the environmental dimensions. Projects in the "yellow" category "Do No Significant Harm" (DNSH) to any environmental aspect, and any residual environmental harm can be mitigated by the project itself through affordable and effective measures within reasonable boundaries. To account for local realities, the traffic light system then provides guidance on how to mitigate or compensate for environmental harm and thus guides project developers on how to improve their project colour from red to red/yellow and red/green.

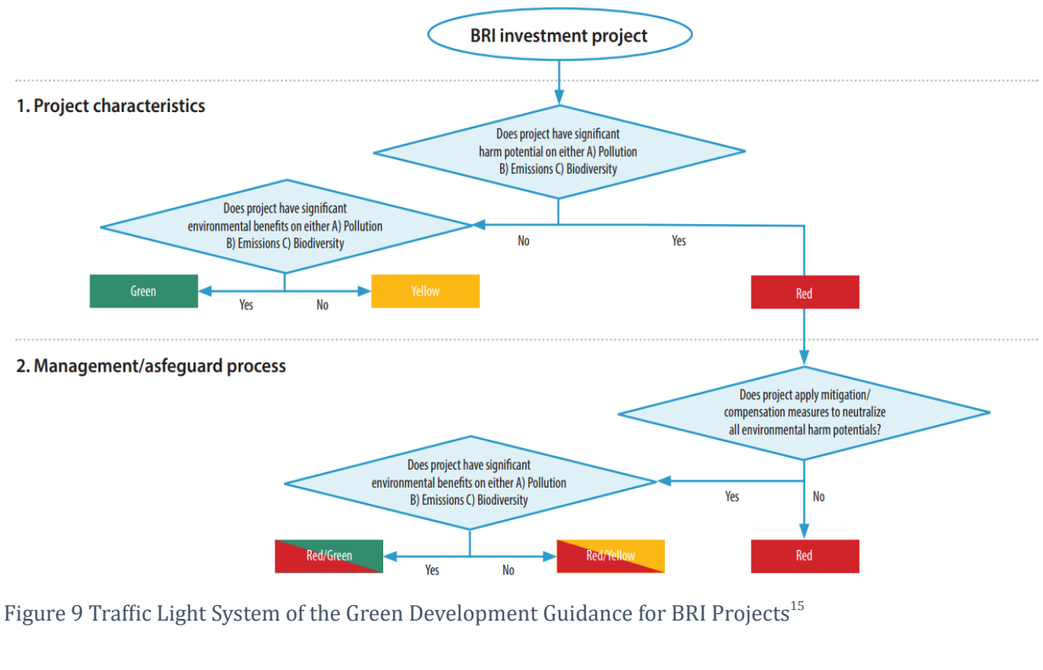


Figure 9 Traffic Light System of the Green Development Guidance for BRI Projects[15]

Box 1: Example of the application of the Traffic Light System of the Green Development Guidance

Transporting freight via rail tends to have less greenhouse gas (GHG) emissions as compared to transporting freight via trucks on the road, particularly in electrified railways in electricity systems with low emission factors.

Yet, as linear infrastructure, such as railways, have a significant environmental harm risk for biodiversity (e.g. as they cut through habitats and ecosystems), the basic evaluation of freight railway's project is "red".

However, project developers who apply relevant standards for biodiversity projection (e.g. IFC Performance Standard 6), can improve the classification of the railway project from red to red/green and accordingly aim for improved financing and less regulatory burden.

One of the Guidance's goals is to allow for more seamless cooperation and co-financing by Chinese and international investors in the BRI. Accordingly, the Guidance provides 9 recommendations:

1 Green Overseas investment practices to span across all project phases

2 Exclude projects from overseas financing that do irreversible environmental harm

15 Nedopil et al.

3 Improve Environmental Impact Assessments particularly for high-risk projects (red, yellow classification)

4 Differentiated conditions for projects depending on their classification, where green projects should receive preferential financing conditions

5 Environmental and Social Management System (ESMS) for project owners of red and yellow projects to ensure projects adhere to the agreed mitigation and adaptation measures

6 Grievance redress mechanisms for financial institutions to receive and resolve environmental concerns of affected stakeholders

7 Covenants to allow financial institutions to work with project owners to rectify environmental and social breaches

8 Public reporting on environmental performance (emissions, pollution and biodiversity) that is independently verified

9 International cooperation

On June 23, 2021, political leaders of China and 28 BRI countries launched the Initiative for Belt and Road Partnership on Green Development ("BRI Green Partnership"), calling upon BRI partners to "promote environment-friendly and resilient infrastructure through, inter alia, enhancing climate and environmental risk assessment on projects, drawing upon internationally recognised standards and best practices, as well as advocating corporate social responsibilities in protecting the ecological environment".

However, differences between Chinese and international project financing practices continue to exist, which can make co-financing challenging. The following chapter therefore provides a comparison of Chinese and international project financing practices.

3. Comparisons between Chinese and international project financing practices

The chapter conducts a gap analysis to identify the obstacles to co-financing between Chinese and international project parties in infrastructure projects. The analysis is based on in-depth desk research, dozens of interviews with experts from Chinese SOEs, private companies, investment funds, policy banks, commercial banks and export credit insurers. A detailed description of Chinese and international practices along the project lifecycle is in Appendix A and B.

The gap analysis focuses on three types of differences:

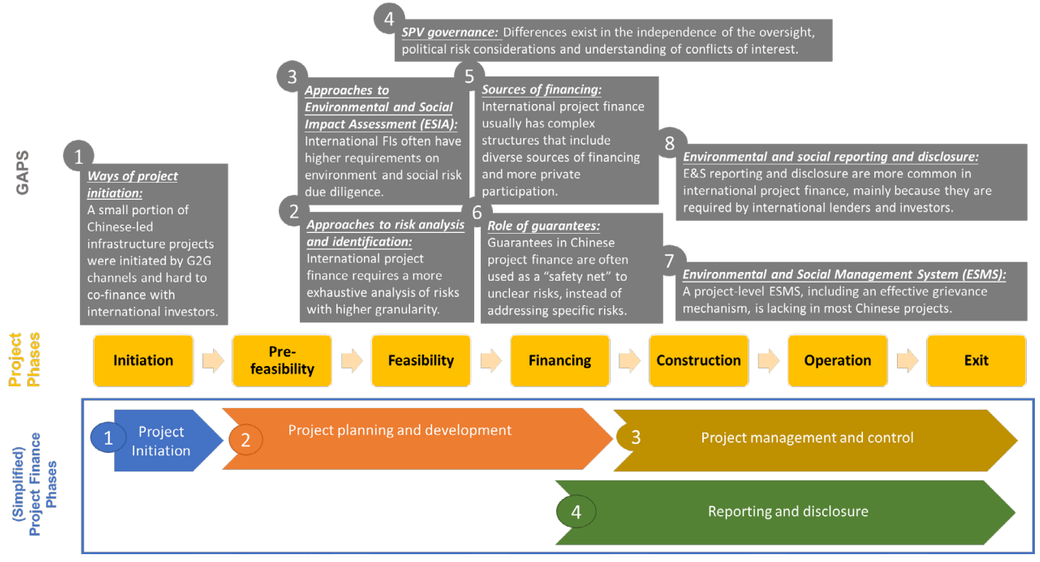
1) Practices that are standard in international project finance, but not yet prevalent in current Chinese practices, such as the maintenance of an Environmental and Social Management System (ESMS) and effective grievance mechanism;

2) Practices that exist in both Chinese and international practices, but with different approaches, such as risk analysis and identification in project preparation;

3) Approaches to governance, such as governance of the project company (SPV).

Based on the analysis of data available, eight major gaps between Chinese and international overseas infrastructure project finance were identified (Figure 10). Each gap is explained in detail below, including brief descriptions of Chinese and international practices, reasons for the discrepancy and risk implications.

Figure 10 Gaps between Chinese and international project finance along the project lifecycle



3.1 Project initiation

Gap 1: Ways of project initiation

A portion of China-led infrastructure projects have been initiated through government-to-government channels. Compared with commercial projects, these projects usually serve different purposes from the beginning (e.g., for social benefits instead of profitability) and have different financial calculations (e.g., Chinese companies participate as EPC contractors instead of investors), and thus are hard to co-finance with international partners.

In Chinese practices, overseas infrastructure projects are often initiated in the following ways:

· local governments issue a public call for tenders;

· project development through a project facilitation fund (e.g., former COIDIC);

· a Chinese project sponsor is interested in pursuing a project;

· a government-to-government MoU between China and the host country includes specific projects.

The G2G channel has played a diminishing role in recent years as new projects are mostly acquired by public tenders.

In international project finance, infrastructure projects are often initiated by:

· governments that initiate a project through a public tender, for example after its energy planning calls for more power station investments;

·project facilitation funds and agencies that initiate a project after perceiving the need for a project, e.g., on urban resilience for climate adaptation;

· project developers that initiate a project to expand their business in the host countries and would take higher financial risks.

The reasons for this gap include, first, that connectivity is considered a core pillar of the BRI that provides avenues to do trade rather than generating sufficient revenues through the infrastructure itself; second, domestic Chinese experience has proven the key role of government in leading the development of infrastructure and infrastructure-led economic growth, especially in emerging markets.

The relative lack of experience in public tender while involving international capital might make it harder both to share risks with international partners, and to refinance or exit the project after construction is complete. A different approach of project initiation with greater collaboration and discipline is needed to meet international requirements

3.2 Project planning and development

Gap 2: Approaches to risk analysis and identification

The process of risk analysis and identification and categories of risks covered are similar in the Chinese and international context, but international project finance requires a more exhaustive analysis of risks with higher granularity.

In Chinese practices, official risk analysis and identification start in the feasibility phase. Chinese project sponsors conduct a feasibility study (which includes an analysis of project risks) with the support of their own staff (e.g., a design institute subsidiary) or a third-party Chinese consultancy. It often includes:

· financial feasibility (assessment of construction and operating costs, investment liquidity, business and income taxes required by local laws, salvage value, etc.);

· technical feasibility (on-site surveys for construction site investigation, security and safety measures, local supply of raw materials, etc.);

· legal due diligence and ESIA that accommodates host country standards (elaborated in the next gap).

Upon receiving the feasibility study submitted by project sponsors, Chinese financial institutions conduct a comprehensive evaluation of risks including political risk, sponsor risks (especially in commercial projects), country risk (in sovereign-backed projects), construction and completion risk, etc. This evaluation of project-related risks is often done by an internal review department of the financial institution.

In some cases, however, two limitations exist. First, feasibility studies from Chinese sponsors might fail to identify some project-related risks due to a lack of experience and capacity. For example, when supply risks are not properly analysed, a delay or shortage of raw material supply will lead to a drop in revenue; in cases where regulatory risks are not properly analysed, requirements for the local procurement of equipment have led to an increase of project costs. Second, as Chinese FIs in general are not equipped with project finance experts or industry-specific experts, they might fail to analyse the extent to which a given risk factor affects the solvency of the project. As a result, certain risks are mitigated through guarantees and taking security over unrelated assets (see Gap 6).

In international project finance practices, feasibility studies are often led by project sponsors and completed by a team of external advisors with different expertise, such as technical consultants for evaluating the technical and technological variables and provide opinions on the cost forecasts for the project, financial advisors for developing the financing mix options to ensure that the project has the necessary financial support, legal advisors for providing details on the legal architecture and design of the transaction, and experts on ESIA to evaluate possible environmental and social impacts of the project. The final product will be a detailed document including a financial plan, market analysis, technical analysis, suggested risk mitigation measures, security package, etc. In addition, international project finance looks at risks over the long term (instead of construction only) and thus feasibility is challenged at each stage, reducing the chance of not identifying or managing any risk.

This gap might arise due to the requirements of project finance to carry out project-level risk analysis and richer experience of international partners and external advisors. At the same time, Chinese infrastructure project development arises from the EPC model and "EPC+F" model where corporate finance and parent company credibility are important. In those projects where Chinese companies serve as EPC contractors instead of equity holders, they are incentivised to produce overly optimistic risk analysis. Furthermore, with the need to conduct proper risk analysis, cost and resource use (including time) increases, which might be perceived as being unnecessary and costly.

Insufficient risk analysis and identification can lead to future risks arising throughout the project lifecycle such as cost overruns, delays, poor compliance, ESG issues, government debt issues, and inevitably hamper

the capability of Chinese project sponsors to allocate risks properly, minimise residual risks and attract private investors.

Gap 3: Approaches to Environmental and Social Impact Assessment (ESIA)

Both Chinese and international project sponsors primarily follow the regulations in the host country, but in countries where proper ESIA standards are lacking, international lenders and investors in general always require ESIA to be conducted by independent E&S consultants based on (higher) international best practice standards (e.g., IFC Performance Standards in "non-designated countries").

Both Chinese and international project parties require an environmental and social (E&S) assessment process and relevant documentation such as project-specific permits, audits and Environmental and Social Impact Assessment (ESIA) reports. However, the approaches and standards vary widely.

In Chinese practices, Chinese regulations require sponsor companies to prepare an ESIA in the project preparation phase in accordance with host country laws. This is necessary to obtain relevant permits and licenses from both the host country and Chinese authorities. Meanwhile, Chinese financial institutions require local ESIA documents when conducting their own due diligence. While some banks (e.g., EXIM Bank of China in the "White Paper on Green Finance") advocate for Chinese standards when host countries lack appropriate policies, there is little consensus on the E&S risk framework among financial institutions. Even within the banks, an internal E&S guideline for overseas financing is either lacking or opaque in most cases. To date, none of the Chinese banks involved in large-scale overseas project financing has signed the Equator Principles (EPs), a common framework for financial institutions to identify, assess and manage environmental and social risks. While the Green Investment Principles (GIP) advocate for greening finance through seven principles, it currently lacks a clear framework and sectoral guidance for conducting a proper ESIA.

As a result, current ESIA practices in Chinese overseas project development rarely go beyond the host country's standards, whereas sometimes even compliance with the local standards is incomplete, partially due to specific dynamics between Chinese sponsors and local stakeholders or domestic corruption in the host countries.

A recent development is the "Green Development Guidelines for Overseas Investment and Cooperation" issued by Chinese Ministry of Commerce (MOFCOM) and the Ministry of Ecology and Environment (MEE) on July 16, 2021, which explicitly encouraged Chinese companies to follow "international green rules and standards." It also clearly outlines that "If the host country lacks relevant laws and regulations, or the environmental standards are deemed lax and insufficient, Chinese enterprises are encouraged to adhere to international organisations or multilateral agencies' common standards or Chinese standards for their overseas investments and cooperation".[16] A shift to higher standards and a common ESIA framework, therefore, are expected for future Chinese overseas projects.

16 商务部、生态环境部，"商务部 生态环境部关于印发《对外投资合作绿色发展工作指引》的通知，" 16 2021, http://images.mofcom.gov.cn/hzs/202107/20210716144040753.pdf.

In international practices, the review and assessment of project specific E&S risks have been incorporated as an integral part of due diligence. Commercial banks, especially the ones who have adopted the Equator Principles ("EPFIs"), implement a much stricter ESIA. EPFIs require project sponsors to prepare an ESIA depending on the risk category (A, B, C): for all projects with potential significant adverse E&S risks (Category A) and some projects with potential limited adverse E&S risks (Category B) projects, the EPFIs will hire independent E&S consultants to review and confirm compliance with host country laws for projects located in "Designated Countries" [17] or compliance with applicable IFC Performance Standards and the World Bank Environmental, Health and Safety (EHS) Guidelines for projects in "Non-Designated Countries."[18] To date, 118 financial institutions in 37 countries have officially signed up, whose businesses cover the majority of international project financing.[19] In addition, the EPs are seen as a minimum requirement, rather than an upper benchmark.

Similarly, multilateral development banks (MDBs), which provide both direct financing and guarantees, have more stringent E&S review procedures and higher standards compared to commercial banks, e.g., on biodiversity aspects. With reference to the IFC Performance Standards, MDBs active in infrastructure financing in emerging markets, such as European Bank for Reconstruction and Development (EBRD), the Asian Infrastructure Investment Bank (AIIB) and the Asian Development Bank (ADB), have developed their own policies governing the E&S review procedures.

For internal governance, financing committees in international FIs, in particular DFIs, often first pay very close attention to the ESIA (often even before they review other parts of the due diligence, as they see this as a pillar to the project's legitimacy and therefore its risks).[20] Therefore, "a number of banking institutions (…) had both a credit committee approval process as well as a reputational risk committee approval process for ESG risks".[21] Accordingly, international FIs usually actively engage with project sponsors early in the process, and make their requirements transparent to all stakeholders involved.

From a risk implication perspective, at the due diligence stage, Chinese project sponsors, compared to their international counterparts, often miss the opportunities to understand and address E&S risks thoroughly. In addition, the extra efforts needed to match up to international standards due to the lack of technical know-hows has been an obstacle for Chinese companies to obtain international financing.

17 "Designated Countries" are those countries deemed to have robust environmental and social governance, legislation systems and institutional capacity designed to protect their people and the natural environment. The Equator Principles Association makes no independent assessment of each country's performance in these areas. As a proxy for such an assessment, the Equator Principles Association requires that a country must be both a member of the OECD and appear on the World Bank High Income Country list to qualify as a Designated Country. The list of Designated Countries can be found on the Equator Principles Association website.
18 "The Equator Principles," July 2021, https://equator-principles.com/wp-content/uploads/2021/02/The-Equator-Principles-July-2020.pdf.
19 "About - The Equator Principles," 2020, https://equator-principles.com/about/v.
20 Clifford, Project Finance.
21 Clifford, Project Finance.

Gap 4: SPV governance

The governance of the project company (SPV) should assign responsibilities to different project parties and provide oversight of and strategic direction for the project company. Furthermore, SPV governance reduces conflicts of interests of the involved parties, which might evolve due to pre-existing relationships between different project parties (e.g., investors, EPC companies, suppliers). Accordingly, differences exist regarding the independence of the oversight, political risk considerations and the understanding of conflicts of interest.

In Chinese overseas infrastructure projects, SPV governance is determined by the shareholders, including three types of parties: project sponsors (who often also play the roles of EPC contractor, operator and management contractor), third-party investors (e.g., equity funds) and in-kind (local parties who support local business of the SPV but do not invest any equity). Specific agreements, including those on voting rights, dispute resolutions, CEO election are negotiated at the feasibility phase based on the requirements of local law (e.g., some countries require independent board members in certain types of companies), but the cooperation and on-ground decision-making have been challenging in some cases.

In particular, Chinese conglomerates often provide equity funding, EPC service, O&M services and develop more than one mutually related projects with cross-over benefits. While this arrangement might at times allow for easier communication and lower transaction costs, it casts doubt on board independence in that board members are seen as representing and safeguarding the interest of the shareholders and their parent companies instead of reducing the risks of the project. Furthermore, international investors might regard some arrangements as conflicts of interest, such as appointing someone from the EPC contractor instead of an independent third party as the supervisor for construction.

In international project governance, the goal is to primarily reduce the risks of the project and ensure the project's success. Accordingly, to "maintain the sanctity of bankruptcy-remoteness, the legal and governance structure, decision-making, and operational and financing activities of the project company must be kept distinct and separate from those of the project sponsors and other related project parties"[22]. As the governance set-up is core to the assignment and oversight of risks, BNPPAM, for example[23], rates corporate governance as the most important element in its investments in all of its sectors for its assets (see Figure 11). At BNPPAM proxy voting on ESG issues is also supported by both the stewardship team and the investment team.

By doing so, international investors aim to structure project governance to reduce the conflicts of interest between the related parties and maximise oversight.

22 Clifford.
23 The same approach does not necessarily apply to all asset managers

Our Materiality Meat Map

We group each individual metric in our ESG scoring framework into 11 common themes, however the underlying metrics used to assess performance under each theme vary by sector. The below materiality Heat Map provides a visual representation of the weights applied to each theme for each sector in our scoring model. A darker shade of green highlights a higher weight, and a lighter shade of green represents a lower weight.

Figure 11 BNPPAM ESG Heat Map[24]

The difference in risk identification between Chinese and international project parties can lead to a different valuation of interests by different parties of the SPV. What might be considered a conflict of interest in the international context, might be seen as beneficial for the overall conglomerate in the Chinese setting. Therefore, governance structures as the contractual framework aligning decision-making to reflect the interests of the parties might have different outcomes.

3.3 Financing

Gap 5: Sources of financing

Compared with financing for Chinese-led overseas projects, international project finance usually has complex structures that includes diverse sources of financing and more private participation.

In Chinese overseas infrastructure projects, equity financing is obtained mainly from host governments (e.g., ministries of energy or transportation), local companies (e.g., local state-owned electricity provider),

24 BNP Paribas, "BNP Paribas Asset Management SFDR Disclosure Statement," March 2021, https://group.bnpparibas/uploads/file/2021_eu_sustainable_finance_disclosure_bnp_paribas_asset_management_english.pdf.

Chinese project sponsors (e.g., self-owned capital or on-balance-sheet loans or bonds) and equity funds (such as Silk Road Fund, China Africa Development Fund, China Co-financing Fund for Latin America and the Caribbean). Debt financing is predominantly arranged from policy banks and state-owned commercial banks, with export credit insurance or guarantee products provided by Sinosure.

In international project finance, as risks are always properly allocated, a diverse group of lenders and investors could be included in the project according to their risk appetites. Equity providers include project developers, institutional investors, and early-stage equity funds, while debt financing could come from commercial banks, project bonds or notes, infrastructure debt funds and multilateral or regional development banks.

Factors leading to this gap are twofold. First, Chinese investors are capable of providing sufficient funding for large infrastructure projects with less transaction costs, and international project finance is in general less attractive to Chinese project sponsors. Second, most Chinese-led infrastructure projects have been financed with the purpose of facilitating exports of equipment and standards instead of for profiting from the infrastructure in the long-run, so an allocation of risks between parties might not be regarded as necessary.

While financing with Chinese banks and export credit agencies has proven successful in its high efficiency and ability to build infrastructure in least-developed countries, the limited sources of financing for Chinese overseas infrastructure inevitably imposes high risks to Chinese project sponsors and banks backed by the state. In addition, interests of international and Chinese partners for investing in third markets might not be aligned.

Gap 6: Role of guarantees in the financing structure

While guarantees are used in both Chinese and international project finance in emerging markets, guarantees are often used as a "safety net" for unclear risks, and thus a prerequisite for securing support from Chinese financial institutions.

In Chinese practices, guarantees (including sovereign guarantees, parent company guarantees and shareholder guarantees) are often required for project sponsors to obtain export credit insurance and loans from banks. When and to what extent guarantees are needed are determined based on the perception and evaluation of project risks by financial institutions. Exceptions are renewable energy and ICT projects that are more commercialised with relatively stable cash flows.

In international project finance, guarantees are used to address specific types of residual risks (which are risks left with the project company after proper allocation, contractual design and financing mechanism). A letter of support from the host government is usually strong enough for investors. Credit enhancements are provided by MDBs and international guarantee facilities and private insurers are also widely used, including political risk insurance, partial credit guarantees and political risk guarantees.

This practice might originate from China's experience using central or provincial government guarantees for infrastructure projects domestically as well as the insufficient risk analysis and allocation during the

feasibility phase. From a project risk perspective, on the one hand, guarantees that are used as a "catch-all" approach (such as corporate guarantees and sovereign guarantees) are not as effective as credit enhancement measures in project finance that target specific risks; on the other, guarantees that are not creditworthy enough (e.g., sovereign governments undergoing economic difficulties) might add additional layers of risks instead of security to the project. This further undermines the bankability and financial sustainability of a project.

3.4 Project management and control

Gap 7: Environmental and Social Management System (ESMS)

Chinese sponsor companies often lack a systematic and proactive approach to environmental and social risk management (ESRM) in contrast with the best practises of international projects that set-up and maintain a project-level Environmental and Social Management System (ESMS) including a grievance mechanism.

ESMS is an overarching management system for identifying, assessing and managing E&S risks. It can often include specific policies and programs such as an Environment, Health and Safety (EHS) program and a grievance mechanism. With the application of a "Plan-Do-Check-Act" (PDCA) cycle, an ESMS is designed to make sure the mitigation plans proposed in the ESIA will be carried out. It has built-in a grievance mechanism that aims to reduce friction for raising concerns and complaints in case of adverse E&S performance.

For Chinese project sponsors and financial institutions, project-level E&S risk management is reactive due to an insufficient ESMS. As a result, E&S risks are often identified too late. Some companies see an EHS policy or program as equivalent to an ESMS because the former can help prevent environmental accidents and protect employers' health. However, an EHS is only part of the ESMS, and cannot substitute for the whole system: the risk monitoring and action possibilities of an EHS program are often limited in scope. For Chinese financial institutions, this also leads to material E&S risks not being identified and informed in time, especially when onsite supervision is often missing from Chinese lenders. This challenge is exacerbated due to the current lack of grievance mechanisms, which would allow financial institutions to have a direct channel to access possible complaints. From our knowledge, the China Banking and Insurance Regulatory Commission (CBIRC) is currently working on establishing a centralised grievance mechanism for overseas finance.

In contrast, in international practices, commercial banks and MDBs, in general, tend to be more proactive in their approaches through demanding that the client establish and maintain an ESMS, especially for projects with potentially medium to high adverse E&S impacts. For example, for EPFIs, ESMS is required for all projects with potential significant adverse E&S risks (Category A) and some with potential limited adverse E&S risks (Category B) (Principle 4); a grievance mechanism is required for all Category A and appropriate Category B projects (Principle 6). For project sponsors in international practices, the implementations of these measures are more common, not only because of the pressure to comply with EPFIs' requirements, but also to satisfy the increasing Environment, Social and Governance (ESG) scrutiny from investors and regulators.

The gap leads to different approaches to identifying and handling risks. Compounded with the failure to factor in all relevant E&S risks into their risk framework in the due diligence phase, Chinese companies and financial institutions might only be able to view E&S risks as idiosyncratic accidents; they lack systematic strategies to identify and manage them more proactively compared to their counterparts in international practices.

3.5 Reporting and disclosure

Gap 8: Environmental and social reporting and disclosure

In terms of reporting and disclosure, Chinese project sponsors have made less efforts in disclosing the environmental and social impacts of their projects to the public. In comparison, such disclosures are more common in the international context, especially under the pressure of international lenders and investors.

For Chinese project sponsors, they are required by Chinese financial institutions (i.e., banks and insurers) to regularly report back internally on material E&S risks that may affect their debt repayment ability. In terms of public disclosure, they are not accustomed to reporting on the E&S performance of their overseas activities to the public.

In terms of international practices, project sponsors are required by the financial institutions, particularly EPFIs and most MDBs, to share with the public on an annual basis relevant climate (e.g., GHG emissions) data, and are encouraged to share commercially non-sensitive biodiversity data.[25] At a minimum, the project sponsors are obliged to share a summary of the ESIA with the public. Normally, project sponsors will also be asked to hire independent E&S consultants to provide the monitoring and reporting, or alternatively, qualified and experienced external experts to provide the verification of internal reporting, for all projects with potential significant adverse E&S risks (Category A) and some with potential limited adverse E&S risks (Category B).[26]

Closely-related to the discrepancies in ESIA and ESMS, reporting and disclosure can be utilised as a means for active stakeholder engagement. Transparent and frequent disclosures, both internal and external, can help improve the ability to understand the overall risks, enhance the transparency and credibility among the public, and attract potential ESG-risk-cautious investors at the later stage.

25 "The Equator Principles."
26 "The Equator Principles."

4. Practical guide for closing the gaps

The chapter provides a guide for Chinese project sponsors interested in attracting international financing for overseas infrastructure projects, particularly under the "project finance" model. The analysis below focuses on topics that address gaps specified in Chapter 3 rather than providing a comprehensive handbook covering all details along the lifecycle[27].

Most importantly, this chapter emphasises considering the following recommendations along the five phases of the project finance lifecycle:

1. Recommendation 1: Focus on high-quality and transparent project initiation
2. Recommendation 2: Strengthen independent risk analysis and risk identification
3. Recommendation 3: Strengthen environmental and social impact assessment (ESIA)
4. Recommendation 4: Improve SPV governance
5. Recommendation 5: Utilise multiple sources of financing
6. Recommendation 6: Minimise use of sovereign and corporate guarantees and explore diverse credit enhancement instruments
7. Recommendation 7: Diligently implement an environmental and social management system
8. Recommendation 8: Report regularly and transparently on environmental and social performance

In summary, Chinese project sponsors are encouraged to follow high standards from project initiation and through the project lifecycle in order to not only mitigate project risks and attract international investors, but also enable refinancing and project exit after the project enters operation phase.

4.1 Project initiation

Recommendation 1: Focus on high-quality and transparent project initiation

For international investors to participate in a Chinese-led project, projects initiated through local government tenders or private developers are particularly relevant (as compared to, e.g., government-to-government projects). Two major types of projects can be initiated: green-field projects and brown-field projects.

To increase the chances of international financing, Chinese partners can cooperate on green-field project initiation through cooperation with early-stage project developers who provide capital and management capacity to address early-stage risks and develop bankable projects. By structuring the project to become bankable, the project becomes more attractive for international financiers, while the initial risk evaluation and risk allocations reduce risks for international participants.

27 Many relevant handbooks have been published on international project finance, e.g. by Dentons, "A Guide to Project Finance," 2013; Clifford, *Project Finance*., as well as by most multilateral development finance institutions.

For brown-field projects (e.g., upgrading of existing infrastructure), international project investors might be more readily available and willing to co-invest, as the business case of the project would most likely have been proven already. Initiation of such brown-field projects might be through the existing project portfolio from one of the project owners or through another project owner who is willing to sell its assets. It might also be initiated by the local government, which is trying to encourage private sector participation in infrastructure construction, operation, financing or ownership. In such brown-field projects, initial due diligence, however, looks different from green-field projects: the project performance prior to the extension needs to be carefully evaluated, while – depending on the ownership structure – the project might also generate revenue already during the construction phase.

Chinese developers should utilise the broad range of project initiation mechanisms, such as project facilitation facilities or early-stage project developers to work with international partners on planning and project development. Such mechanisms provide high credibility for the project's quality and make it easier to exit the project after a few years of operation.
Furthermore, brown-field project finance might provide for a ready-made business case for international sponsors, particularly if the original project has been well documented.

4.2 Project planning and development

Recommendation 2: Strengthen independent risk analysis and risk identification

Project sponsors should pay special attention to two aspects in the risk analysis and identification for infrastructure projects:

1) Recognise that specific types of risks are relevant to different phases along the project lifecycle (as Figure 12 shows), and even the same risk category (e.g., political risk) affects the project differently at different times.

2) Prepare independent due diligence reports with complete and detailed risk frameworks, which are required by international financial institutions and are key to ensuring that no risks are "parked" within the project company in later stages.

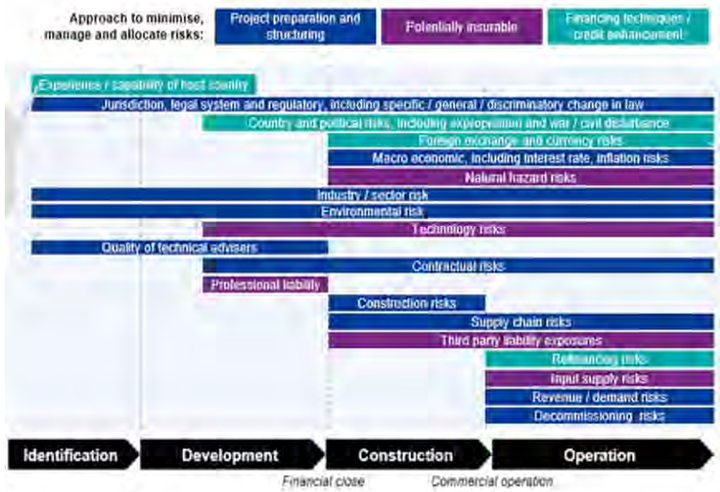


Figure 12 Risks on infrastructure projects across the lifecycle (not an exhaustive list) (source: KPMG)

An example risk matrix for a road PPP project provided by GI Hub[28] is shown in Table 2. More details including definition, relevance and mitigation advice are available online.

Table 2: Risk matrix for a road PPP project - Global Infrastructure Hub (GI Hub)

Risk category	Dimensions for risk analysis
Land Availability, Access and Site Risk	· Provision of required land - general · Provision of additional land (permanent and temporary) · Resettlement · Suitability of land · Key planning consents · Subsequent planning approvals · Access to site and associated infrastructure · Site security · Utilities and installations · Site condition · Existing asset condition
Social Risk	· Community and businesses · Resettlement · Heritage / indigenous people · Industrial action

28 GI Hub, "Road - PPP Risk Allocation Tool," PPP Risk Allocation, accessed August 25, 2021, https://ppp-risk.gihub.org/risk-allocation-matrix/transport/road/.

Risk category	Dimensions for risk analysis
Environmental Risk	· Pre-existing conditions · Obtaining environmental consents · Compliance with environmental consents and laws · Environmental conditions caused by the project · External environmental events · Climate change event
Design Risk	· Stability of design · Approval of designs · Changes to design
Construction Risk	· Cost increases · Work completion delays · Project management and interface with other work/facilities · Quality assurance and other construction regulatory standards · Health and safety compliance · Liability for death, personal injury, property damage and third party liability · Defects and defective materials · Intellectual property · Industrial action · Vandalism
Operating Risk	· Increased operating costs and affected performance · Performance/ price risk · Operational resources or input risk · Intellectual property · Health and safety compliance · Liability for death, personal injury, property damage and third-party liability · Maintenance standards · Interface · Industrial action · Vandalism
Financial Markets Risk	· Inflation · Exchange rate fluctuation · Interest rate fluctuation · Unavailability of insurance · Refinancing
Others (details omitted)	Variations Risk, Condition At Handback Risk, Early Termination Risk, Change In Law Risk, MAGA Risk, Force Majeure Risk, Disruptive Technology Risk, Strategic/ Partnering Risk, Demand Risk, etc.

To conduct rigorous risk analysis and identification, project sponsors should:

1) Make appointments early on with technical, legal, financial, insurance advisors experienced in similar projects and market practices in the relevant project sectors.

2) Identify risks by engaging internal and external stakeholders (including through public consultation) on a timely basis, so that all relevant risks can be identified.

3) Estimate the likelihood and potential impact of the eventuation of the identified risks. Qualitative or quantitative methods could be used[29].

4) Project parties should make informed decisions on whether it is more efficient to retain a given risk or to transfer it to another party based on previous analysis.

5) Prepare to tackle changes in risk factors along the project lifecycle and maintain the assessment of risks periodically.

Chinese project sponsors should expand the depth and width of the current methodology for risk identification and strengthen independent risk analysis and identification in an internationally-recognised format.

Recommendation 3: Strengthen environmental and social impact assessment (ESIA)

To attract international private capital and the support of multilaterals' , project sponsors are advised to benchmark their environmental and social impact assessment (ESIA) against the more stringent impact assessment standards between host countries' laws and lenders' requirements. Specifically, Chinese project sponsors should:

· Hire independent E&S consultants: Chinese project sponsors should hire external E&S consultants and experts with domain knowledge in climate change, biodiversity, etc. The team of consultants need to be independent from the stakeholders involved in order to ensure impartiality in their evaluation. Throughout the E&S risk identification and later on, the management processes, Chinese project sponsors should actively consult the third-party E&S team, who are ideally certified and equipped with abundant knowledge and experience of the host country's physical and socio-economic environments.

· Adhere to international best practices such as the IFC Performance Standards and the World Bank Group EHS Guidelines on top of the host countries' legal requirements and also consider applicable international treaties and agreements (e.g., Paris Agreement, Convention on Biological Diversity). The only exception can be when the proposed project is located in "Designated Countries"[30], where the local E&S legislative and governance systems are more robust. In those cases, project sponsors could primarily follow the relevant laws and regulations of the jurisdiction, even though the two standards can still be referenced as a baseline. Project developers and sponsors should utilise the eight IFC

29 The Infrastructure Australia guidance note on calculating the PSC (AU 2016a, 84 – 109) provides detailed guidance both on identifying risk and using various quantitative techniques to evaluate risks. PFRAM, the PPP Fiscal Risk Assessment Model (IMF and WB 2016) designed by the IMF and the World Bank, identifies a large set of risks that may have a fiscal impact. In practice, many implementing agencies take a more qualitative approach at this stage.

30 Designated Countries are those countries deemed to have robust environmental and social governance, legislation systems and institutional capacity designed to protect their people and the natural environment. The Equator Principles Association makes no independent assessment of each country's performance in these areas. As a proxy for such an assessment, the Equator Principles Association requires that a country must be both a member of the OECD and appear on the World Bank High Income Country list to qualify as a Designated Country.

Performance Standards (see Box 1) as a framework to identify, assess and mitigate potential E&S risks in the following seven aspects such as labour, pollution, biodiversity, and Indigenous communities (through PS2-PS8 under the overarching PS1). The IFC Performance Standards and World Bank Group's General EHS Guidelines together provide high-level E&S assessment and management guidance for all applicable industries. To obtain technical guidance, and learn from industry good practices, Chinese project developers and sponsors should follow the sector guidelines laid out in the World Bank Group EHS Guidelines (see Appendix C).

· Conduct additional climate change risk assessment. Climate risks include more frequent extreme weather events and chronic shifts in climate patterns (climate-related physical risks) as well as the ever-changing regulations, technology and markets (climate-related transition risks). When applicable, project sponsors can refer to the definitions and framework set out in the Task Force on Climate-Related Financial Disclosures (TCFD). Additionally, the assessment of climate risks should also include an alternative analysis to evaluate if other technically and financially feasible solutions are available to reduce GHG emissions across the project lifecycle. For projects in high carbon intensity sectors, including but not limited to oil and gas and thermal power, sponsors need to compare the selected technology with other viable options in the same industry and country context on the aspects of energy efficiency, GHG efficiency ratio, etc.

· Aside from climate risks, project-related impacts on biodiversity and local communities that are at risk, especially indigenous peoples, also need to be analysed and addressed. In general, to obtain multilateral institutions' (e.g., AIIB, ADB, EBRD, AfDB) support in the form of direct lending, equity investment or guarantees, Chinese project sponsors should stick to a higher-level of ESIA standards with increased rigor on the aforementioned aspects. As the baseline, project sponsors should comply with the IFC Performance Standards (especially PS5-PS7). Beyond that, they can also refer to the guidelines laid out in the E&S policies of their target financial institutions.

· At the end, Chinese project sponsors should have a thorough understanding of the potential E&S risks, how they might affect the bankability of the proposed project and possible mitigation measures. The assessment documentation may include an ESIA and other specialised studies such as climate risk assessment and biodiversity impact assessment. Derived from that, project sponsors can prepare the Environmental and Social Management Plan (ESMP) and if applicable, the Biodiversity Action Plan (BAP), Resettlement Action Plan (RAP), etc.

Box 2: The IFC Performance Standards (PS) (since January 2012)[31]

PS1 - Assessment and Management of Environmental and Social Risks and Impacts
PS2 - Labour and Working Conditions
PS3 - Resource Efficiency and Pollution Prevention
PS4 - Community Health, Safety and Security
PS5 - Land Acquisition and Involuntary Resettlement
PS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources
PS7 - Indigenous Peoples
PS8 - Cultural Heritage

31 IFC, "Performance Standards on Environmental and Social Sustainability" (IFC, January 1, 2012), https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS_English_2012_Full-Document.pdf?MOD=AJPERES&CVID=jkV-X6h.

These suggestions align with the requirements for Chinese companies to follow "international green rules and standards" in their overseas investment and other economic activities, as outlined in MOFCOM and MEE's Overseas Investment Guidelines published in July 2021.[32]

To attract international lenders and investors, project sponsors should hire independent E&S experts to identify and assess the E&S risks. The assessment should comply with international best practices such as IFC Performance Standards and the World Bank Group EHS Guidelines. The scope also extends to studies on climate, biodiversity and affected communities. Project sponsors should prepare ESIA, ESMP and other relevant documents for submission.

Box 3: Case study - Karot Hydropower Project – ESIA

Project overview

As one of the flagship projects under the China-Pakistan Economic Corridor (CPEC) framework, the 720MW Karot Hydropower Project was developed by Karot Power Company (Pvt.) Limited (KPCL) that was incorporated in 2010 as an SPV responsible for executing this project. The project's total investment amount is USD 1.74 billion. The main sponsor of the project is China Three Gorges South Asia Investment Limited (CSAIL), the investment arm of China Three Gorges Corporation (CTGC) in South Asia. Financed by bilateral (EXIM Bank of China, CDB, Silk Road Fund) and multilateral financial institutions (IFC), the project follows the "limited-recourse project finance" structure. The EPC contractor of this project is wholly owned by CTGC. The project started the construction phase in 2015 and was expected to commercially-operate in December 2021. Under the Build-Own-Operate-Transfer (BOOT) model, KPCL will operate the project for 30 years, then transfer it to the Government of Pakistan.Environment and Social Assessment

The first version of the Environmental Impact Assessment (EIA), conducted in 2009 by SMEC, an infrastructure consultancy company, was approved by relevant Environmental Protection Agencies in the following two years. To reflect the design changes, an update to the previous EIA was carried out by Pakistan Engineering Services (Pvt) Limited (PES) in 2015, which was later approved.

As one of the investors, IFC reviewed the PES EIA, and concluded the PES version as insufficient in satisfying the IFC standards. The project was classified as a Category A project by IFC for its potentially significant adverse E&S impacts, which prescribes the most stringent assessment and review processes. In order to meet IFC's requirements, the project company hired Mott MacDonald,

another third-party consultancy firm, that was tasked to bring the assessment up to international standards.9 The final ESIA was prepared in compliance with the IFC Performance Standards (2012), the World Bank Group's EHS Guidelines (2007) on top of national legislations such as the Pakistan Environmental Protection Act (1997).

The main stages in the ESIA include11:

- Establishment of the baseline to understand current conditions at and around the proposed Project sites;
- Prediction of impacts of the construction and operation phases;
- Identification of mitigation measures to be included in the design and ongoing management.

The full ESIA documentation is comprised of seven volumes:

- Non-technical Summary (NTS) of the international ESIA report
- International ESIA Main Report

32 商务部、生态环境部，"商务部 生态环境部关于印发《对外投资合作绿色发展工作指引》的通知."

- Technical Appendices/Supporting Documents
- Environmental and Social Management Plan (ESMP)
- NTS of the Resettlement Action Plan
- Resettlement Action Plan (RAP)
- Stakeholder Engagement Plan (SEP)

The whole ESIA process went through various public consultation and stakeholder engagement activities, including land negotiations and resettlement consultations (see Figure 14). The full ESIA documentation is publicly available online.

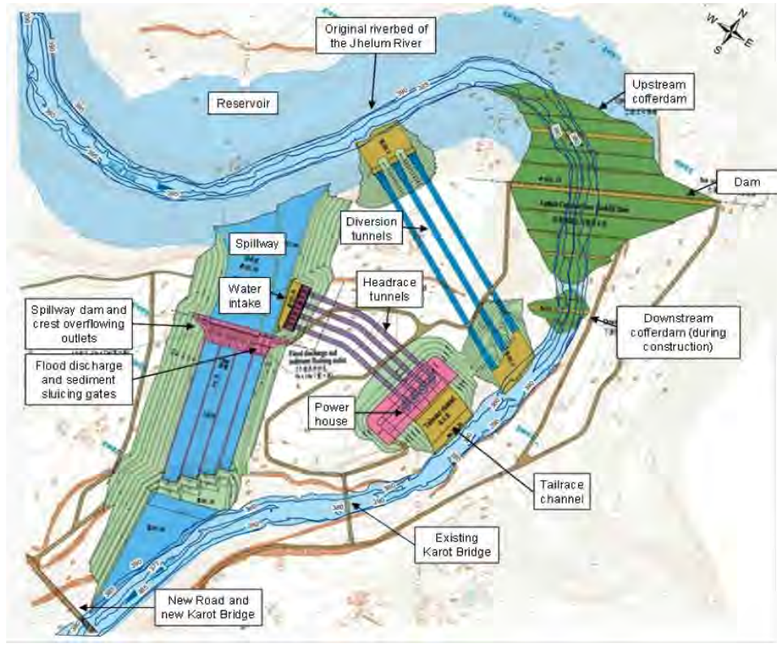


Figure 13 Karot hydropower project layout

Source: KPCL (labels and contours of the original riverbed added by Mott MacDonald), retrieved on August 6, 2021 from Mott MacDonald, "720MW Karot Hydropower Project Pakistan - Environmental and Social Impact Assessment Volume I - Non-Technical Summary," July 2015.

Figure 14 Public consultation for the Karot hydropower project

Source: Sustainable Solutions July 2015, retrieved on August 6, 2021 from Mott MacDonald, "720MW Karot Hydropower Project Pakistan- Environmental and Social Impact Assessment Volume VII – Stakeholder Engagement Plan," July 2015.

Recommendation 4: Improve SPV governance

With many stakeholders involved on the equity side (e.g. financial investors, local governments, corporations, individuals), it is a paramount first step to understand the different interests of the involved parties to allow for a more efficient design of the SPV governance and to minimise conflicts of interests. This requires a certain level of transparency by all involved parties about related interests in this project.

Next, the SPV's governance should be set up to allow for a separation of conflicting interests, e.g. by establishing decision-processes and control function where the beneficiary of a decision is not the decision-maker (e.g. procurement decisions should not be made by the same entity, which holds the supplier). If this is unavoidable, safeguards should be put in place to minimise the risk of graft, cronyism, nepotism or embezzlement.

This control of conflicts of interests through relevant governance structures goes beyond the cash-flow waterfall and should include, for example a board (particularly for larger projects).

The SPV should accordingly establish a board comprising a majority of independent directors (where independence is defined as being not related in a business or personal way to the equity holders), independent audit reporting directly to the board of directors, regular meetings by the board of directors (e.g. 4 times per year), the power to provide oversight and strategic guidance for the executive team, which is set out in the board charter, and board processes that are established in the board handbook. The board should ideally be responsible for the appointment of the executive team, which needs to take place in a fair and transparent manner to hire the most suitable person for the job. It is important to note that in good corporate governance, the board director's fiduciary duty lies with the whole SPV as a representative for all shareholders, and not with a single shareholder. The board chairman should accordingly be fully aware of any conflicts of interests in the board and make sure such conflicts are not influencing decisions. The board should also establish committees (e.g. audit, risk, remuneration, E&S) if the SPV is large enough. The

board should set up the rules of engagement with suppliers and make sure these are followed through, e.g. through regular independent audits.

To ensure accountability and transparency is consistently improved in the SPV, the board should regularly (e.g. once a year) assess its own performance and the governance structure of the SPV[33].

Box 4: Principles of good SPV governance (Source: Queensland Government)[34]

1. Lay solid foundations for management and oversight
SPVs should establish and disclose the respective roles and responsibilities of board and management through a formal statement or board charter.
2. Structure the board to add value
SPVs should have a board of an effective composition, size and commitment to adequately discharge its responsibilities and duties, with a majority of the board being independent directors.
3. Promote ethical and responsible decision-making
SPVs should actively promote ethical and responsible decision making and are expected to observe the highest standards of ethical behaviour.
4. Safeguard integrity in financial reporting
SPVs should have a structure to independently verify and safeguard the integrity of their financial reporting.
5. Have timely and balanced disclosures
SPVs should promote timely and balanced disclosures of all material matters concerning the company.
6. Respect the rights of shareholders
SPVs should respect the rights of shareholders and facilitate the effective exercise of those rights.
7. Recognise and manage risk
SPVs should establish a robust system of risk oversight and management and internal control.
8. Remunerate fairly and responsibly
SPVs are expected to ensure that the level and composition of remuneration is sufficient and reasonable and that its relationship to performance is clear.

As no two governance structures are identical because the governance structure needs to reflect the specific shareholder and legal constellation of the SPV, an experienced governance expert should design and oversee the governance of the SPV. All involved stakeholders should decide on the governance mechanisms, its implementation and consequences for violations. A number of international standards (e.g., by the OECD)[35] are available to design both PPP governance structures and SOE governance structures. The governance structure and its principles should be made in writing (e.g., as part of the shareholder agreement) and adopt the "if not why not" principle.

33 Queensland Government, "Good Governance for Special Purpose Vehicles," accessed August 25, 2021, https://www.statedevelopment.qld.gov.au/__data/assets/pdf_file/0018/32922/good-governance-for-spvs.pdf.
34 Queensland Government, "Department of Infrastructure and Planning: Governance Framework for Infrastructure Delivery Special Purpose Vehicles," accessed August 25, 2021, https://www.statedevelopment.qld.gov.au/__data/assets/pdf_file/0025/17449/spv-governance-framework.pdf.
35 OECD, "Recommendation on Principles for Public Governance of Public-Private Partnerships," May 2012, https://www.oecd.org/governance/budgeting/PPP-Recommendation.pdf; Joan Prats, "The Governance of Public-Private Partnerships: A Comparative Analysis" (Inter-American Development Bank, April 2019), https://doi.org/10.18235/0001575.

Project governance needs to reflect the different interests of the project owners and minimise conflicts of interests by providing transparent processes, oversight and control mechanisms for maximum accountability. An independent board should help to ensure the overall project company's governance is meeting international standards for fiduciary duty and corporate social responsibility.

4.3 Financing

Recommendation 5: Utilise multiple sources of financing

Project sponsors undertaking international project finance should seek financing from different sources based on the investors' respective risk appetites. As can be seen in Table 3, for the construction phase, debt financing from banks, equity from project developers, and support from multilaterals, guarantee facilities and ECAs play a major role; for projects already in the operation phase, institutional investors, bond markets and stock markets provide more diverse financing options.

Table 3: Source of financing applicable at each stage of the project lifecycle (source: KPMG)

Table 4 shows key guidelines for obtaining different sources of financing. To utilise diverse sources of financing across different project phases, project sponsors should keep clear and consistent documentation in order to hand over the project to investors at different project phases.

Table 4: Key guidelines for accessing different sources of financing (adapted from KPMG)

Category	Sub-category	Key guidelines
Private sector debt	Commercial banks	· Prepare independent due diligence including clear risk frameworks, pricing structure, contractual mechanism, exit or refinancing routes, etc.; · Utilise their other roles in addition to lenders, e.g., financial advisor, providers of working capital, debt capital markets solutions and risk management solutions (commodity, currency, and interest rate hedging)[12]; ·Involve banks early in project development, especially during negotiation of risk allocation; · Involve local banks and loans in local currency in the syndication to reduce market risks and currency risk exposure
	Infrastructure debt funds	· For greenfield projects, aim for funds of funds or blended private-public finance platforms such as PIDG's Emerging Africa Infrastructure Fund (EAIF) and IFC's Managed Co-Lending Portfolio Program (MCPP)
	Bond markets	· Use appropriate credit enhancement measures for project bond and notes issuance, e.g., guarantees by GuarantCo, MIGA, Credit Guarantee and Investment Facility (CGIF) or the PEBBLE structure · Seek support from facilitation platforms such as Clifford Capital- AIIB Bayfront Infrastructure
Private sector equity	Project developers	· Prepare documents to meet the specific requirements of project developers in, e.g. ESG, development impact · Explore channels to secure grant support from related facilities (e.g. InfraCo Asia using PIDG Technical Assistance Facility)
	Early-stage equity fund	· Prepare due diligence reports conducted by independent advisors; · Build strong corporate governance structure and processes (voting rights, transfer of shares, etc.) and maintain transparency in management and decision-making; · Target co-investment platforms of Chinese and international investors, e.g., China-Singapore Co-Investment Platform (between Silk Road Fund and Surbana Jurong)
	Institutional equity investors	·Target funds with a track record of investments in emerging markets, e.g., the Canada Pension Plan Investment Board (CPPIB)
	Stock Markets	· Prepare a Prospectus for equity listings in accordance with procedures and regulations of individual stock market · Adhere to requirements on disclosure, corporate governance and accounting standards after listing
DFIs and sovereign-backed financers	DFIs	· Utilise diverse financial instruments offered by DFIs, e.g., lending, technical assistance, credit enhancement · Prepare projects to meet strict requirements in, e.g., procurement, ESG, safeguards (requirements and template documents available on websites)
	Guarantee facilities	· Apply guarantees specifically at residual risks that cannot be mitigated with project preparation · Seek guarantees only from creditworthy guarantors
	International ECAs	· Consider using credit covers jointly provided by Sinosure and international ECAs to boost availability of financing for projects
Private Insurance	Private Insurance/ Reinsurance providers	· Conduct sufficient assessment of risks and provide detailed information for optimal insurance placement · Use specialty products to cover emerging risks, e.g., catastrophic insurance and environmental liability insurance

Chinese project sponsors should seek financing for different phases of projects from different sources based on the investors' respective risk appetites, e.g., from early-stage financing through loans, export credits and public-private equity funds, to later-stage financing through project bonds or institutional debt funds.

It is also critical to take the sources of financing into consideration early in the feasibility phase as the former could determine the initial project contractual design.

Recommendation 6: Minimise use of sovereign and corporate guarantees and explore diverse credit enhancement instruments

Guarantees should be used sparingly to target residual risks that cannot be otherwise allocated. Besides, guarantees should be provided by creditworthy guarantors who are best placed to mitigate those risks. For example, sovereign guarantees from governments with high debt burdens might be viewed by international commercial investors as an additional layer of risk rather than security.

To reduce residual risks, Chinese project sponsors engaged in international project finance could utilise diverse credit enhancement instruments to provide assurance to existing lenders and investors and attract more financing or investment. Table 5 provides a summary of major credit enhancement instruments provided by MDBs, international guarantee facilities and private insurance relevant for the private sector.

Table 5: Select credit enhancement instruments in international finance

Instruments	Coverage	Example
Partial Credit Guarantee (PCG)	· Covers part or all the debt service default risk of a project, irrespective of the cause of default · Can be used for any commercial debt instrument (loans, bonds) from a private lender	IFC's PCG in local currency and foreign currency; GuarantCo's local currency guarantees
Partial/political Risk Guarantee (PRG)	· Covers private lenders and investors for political risks of lending to sovereign or sub-sovereign borrowers, including - Currency inconvertibility - Political force majeure - Regulatory risk - Government payment obligations	IADB's political risk guarantees
Political risk insurance	Covers specific political risks associated with investments in a foreign country: · War and civil disturbance · Expropriation · Breach of contract · Currency inconvertibility and transfer restriction	MIGA's political risk insurance
Currency risk mitigation instruments	Covers a foreign exchange risk with instruments like: · Interest rate swaps · Long-term fixed cross-currency swaps · Inflation-linked cross-currency swaps	Currency Exchange Fund (TCX)'s Long-Term Foreign Exchange Risk Facility
Construction risk mitigation instruments	· Business interruption, delay in start-up and advance loss of profits · Construction and erection risks · Contractors' plant and equipment interruption · Interruption risk of electronic equipment and software · Machinery breakdown · Shipment risks/engineering project cargo	Allianz's Engineering and Construction Insurance

Source: Authors' compilation from IISD (2015)[36] and Pereira Dos Santos Santos (2018)[37]

To access a wide range of credit enhancement instruments, project sponsors need to understand and comply with their requirements for eligible projects. For example, MIGA has specific environmental and social sustainability policies in accordance with the IFC Performance Standards and an exclusion list for projects; TCX's Long-Term Foreign Exchange Risk Facility is only available for infrastructure projects that contribute to climate change mitigation, such as renewable-energy and energy-efficiency projects.

Chinese project sponsors could explore the wide range of guarantees and insurance products and use them independently or as a complement to existing insurance products based on the region, sector, and financing structure of individual products.

Using such credit enhancement mechanism requires proper structuring of the project and early integration of the relevant partners to understand sponsoring requirements.

Box 5: Case study: Nachtigal Hydropower Project in Cameroon (source: KPMG)

The Nachtigal Hydropower Project is a $1.3 billion Greenfield project in Cameroon. It involves the construction of 2,051 hectares, 420 MW, run-of-river hydropower plant on the Sanaga River and is expected to generate an average of 2,900 GWh per year. The construction start date was in the first quarter of 2019 with an expected completion date in December 2023.

To finance the power plant, multiple credit enhancement mechanisms were used, which required detailed project structuring. The project (using NHPC as the project SPV) successfully obtained international private capital (equity and debt).

36 Marina Ruete, Madhu Aravamuthan, and Carlos Dominguez, "Credit Enhancement for Green Projects" (IISD, May 25, 2015), https://www.iisd.org/system/files/publications/credit-enhancement-green-projects.pdf.

37 Pablo Pereira Dos Santos, "Introductory Guide to Infrastructure Guarantee Products from Multilateral Development Banks" (Inter-American Development Bank, December 2018), https://doi.org/10.18235/0001517.

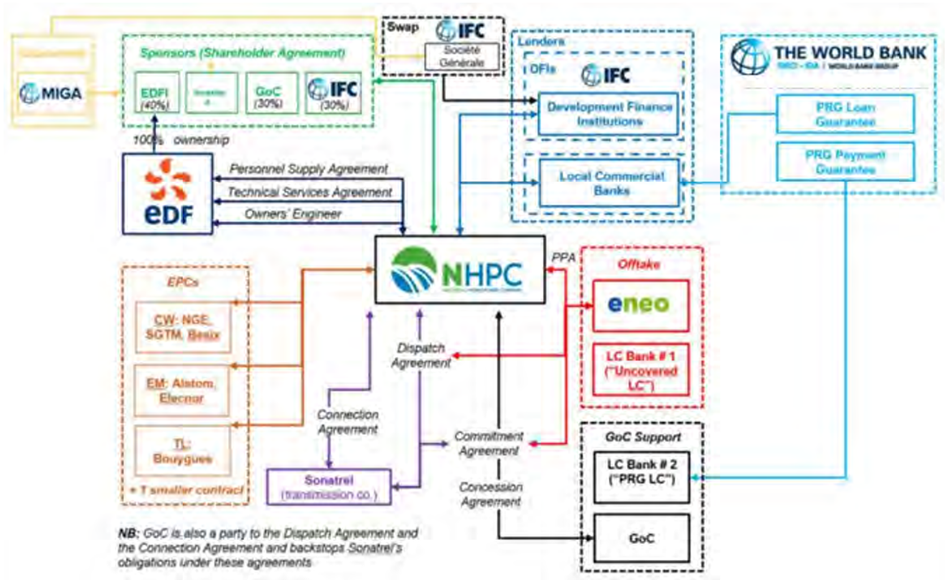


Figure 15 Financing structure for Nachtigal Hydropower Project

Financing was provided by the following parties:

Equity	$332m (24% of the total financing) from a mix of International (e.g. EDF), Multilateral (e.g. IFC) and government sources.
Euro Denominated Debt	$810m of long term, 18-year debt from a range of development institutions (e.g. IFC, Emerging Africa Infrastructure Fund)
CFA Franc Denominated Debt	$200m of 21-year locally denominated debt provided by two local banks and two international bank local branches (Standard Chartered and Société Générale)

Credit enhancement measures are as follows:

Risk type	Instrument	Details
Construction risk	Construction contingencies	Funded contingency of US$133 million for potential cost overruns during construction (noting technical complexity of the project)
Revenue risk	IBRD payment and loan guarantee	· A payment guarantee of US$100 million is a guarantee if payments are not be made under the Power Purchase Agreement · A loan guarantee of US$200 million covering all CFA franc-denominated debt to cover any potential event of non-payment or default by the Government
Refinancing risk	Local Loan Put Option	The local bank lenders have the option to sell their loans at year 7 and 14, guaranteed by the Government of Cameroon and backstopped by the IBRD. This provides an exit option and allows longer term lending to be provided.
Interest rate risk	IFC swaps	Swaps to partially hedge the interest rate risk of the Project's euro-denominated floating-rate loans.
Political risk	MIGA guarantees	Guarantees cover equity, quasi-equity and shareholder loans up to US$224 million to cover Breach of Contract and interest rate swaps up to US$39 million to cover Breach, Expropriation, War and Civil Disturbance and Transfer Restriction.

4.4 Project management and control

Recommendation 7: Diligently implement an environmental and social management system

To meet both the internal needs and external stakeholder demands for E&S risk control, Chinese project sponsors should develop and implement an adequate Environmental and Social Management System (ESMS) with third-party monitoring. An ESMS is a live system that consists of a set of policies, programs, tools, and mechanisms for project sponsors to manage E&S risks and impacts. A solid and functioning ESMS does not rely solely on documents but effective implementation by trained, committed professionals that routinely follow the procedures. Adopting the management method of a Plan-Do-Check-Act (PDCA) cycle, project sponsors should be able to continuously improve the ESMS to reflect any ongoing changes during the project lifecycle. They can use the IFC ESMS Implementation Handbook[38] as a practical guide for developing and maintaining one. Figure 16 illustrates the nine core elements in the IFC handbook: policy, identification of risks and impacts, management programs, organisational capacity and competency, emergency preparedness and response, stakeholder engagement, external communication and grievance mechanism, ongoing reporting to affected communities, monitoring and review. The nine elements complement one another and are intended to fit in the PDCA cycle.

38 See https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_esms-general

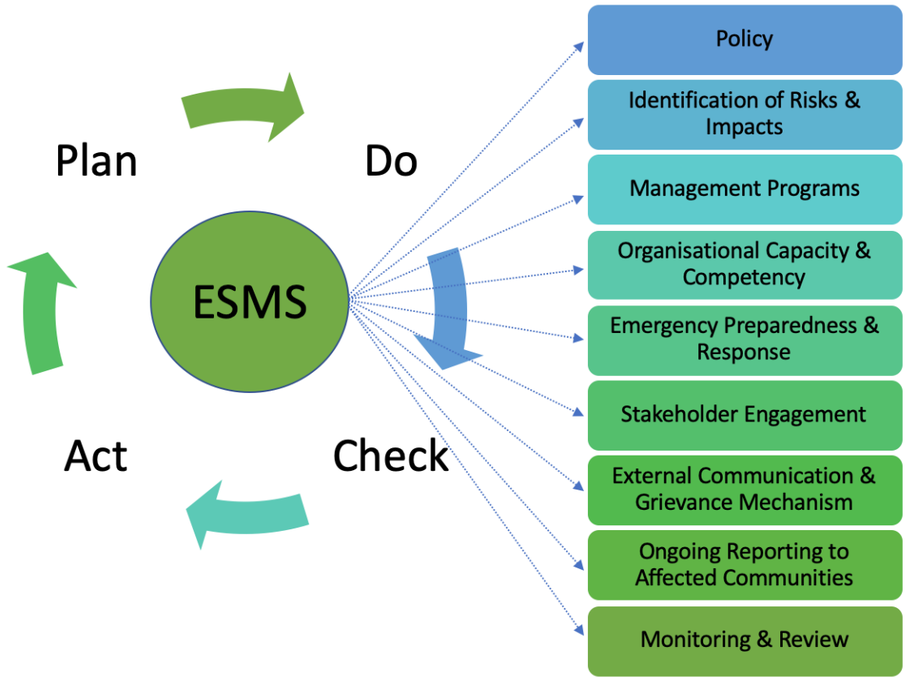


Figure 16 "PDCA" cycle and 9 elements of an ESMS adapted from the IFC ESMS Implementation Handbook[39]

The IFC handbook also includes toolkits[40] for stakeholder maps, checklist for an effective grievance mechanism and sample emergency response procedures.

For internal assessments, Chinese project sponsors should aspire to reach the highest maturity level of an ESIA (see Error! Reference source not found. for the matrix), which translates to a system that is being "implemented internally and with key supply chain partners – continual improvement embedded in operations"[41].

To ensure the robustness of the system and its continual improvement, the project company should also include external monitoring and auditing processes. In terms of external auditing, project sponsors should seek an independent certification body to go through the accredited certification process (e.g., ISO 14001 certification for an EMS). Such certification signals the proper set-up and implementation of an ESMS to help attract E&S-cautious lenders and investors.

39 IFC, "Environmental and Social Management System (ESMS) Implementation Handbook - GENERAL" (IFC, October 2015), https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Sustainability-At-IFC/Publications/Publications_Handbook_ESMS-General.

40 IFC, "Environmental and Social Management System Toolkit" (IFC, November 2015), https://openknowledge.worldbank.org/handle/10986/26033.

41 IFC, "Environmental and Social Management System (ESMS) Implementation Handbook," 2015, https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_esms-general.

Table 6: Maturity levels of an EMS (for self-assessment)

	Policy	Identification of Risk and Impacts	Management programs	Organisational Capacity & Competency	Emergency Preparedness & Response	Stakeholder Engagement	External Communication & Grievance Mechanism	Ongoing Reporting to Affected Communities	Monitoring & Review
5	Mature system implemented internally and with key supply chain partners – continual improvement embedded in operations								
4	Systems well developed and implemented internally – routine improvement projects								
3	Systems approach adopted, but development and implementation are inconsistent – improvement sporadic								
2	Limited system development with sporadic implementation – primarily reactive								
1	Little systems awareness or repeatable processes								
0	No systems awareness or repeatable processes								

Note. 5 represents the most mature, 0 = the least; Adapted from the IFC ESMS Implementation Handbook

Chinese project sponsors should actively manage E&S risks through a robust ESMS that is being continuously improved. They can start setting up and implementing their ESMS through the guidance in the IFC ESMS Implementation Handbook. They can also benefit from the third-party monitoring and certification to gain credibility and confidence in front of international lenders and investors.

Box 6: Case study - Karot Hydropower Project - ESMS

The China Three Gorges South Asia Investment Limited (CSAIL), the main sponsor of the Karot Hydropower Project, has established a framework ESMS as part of its corporate management system. Based on that, the project company KPCL and its EPC contractor have developed project-specific E&S policies and ESMS (see the structure in Figure 17).

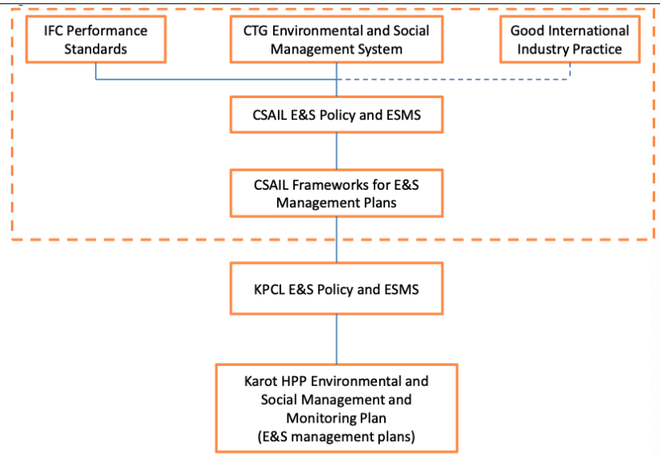


Figure 17 ESMS structure

Specifically, the ESMS comprises different management plans and procedures. The third-party consultancy firm, Mott MacDonald, has helped develop the Environmental and Social Management Plan (ESMP) in line with IFC Performance Standards and good international practices. illustrates the detailed policies, plans and procedures within the overarching ESMS and ESMP.

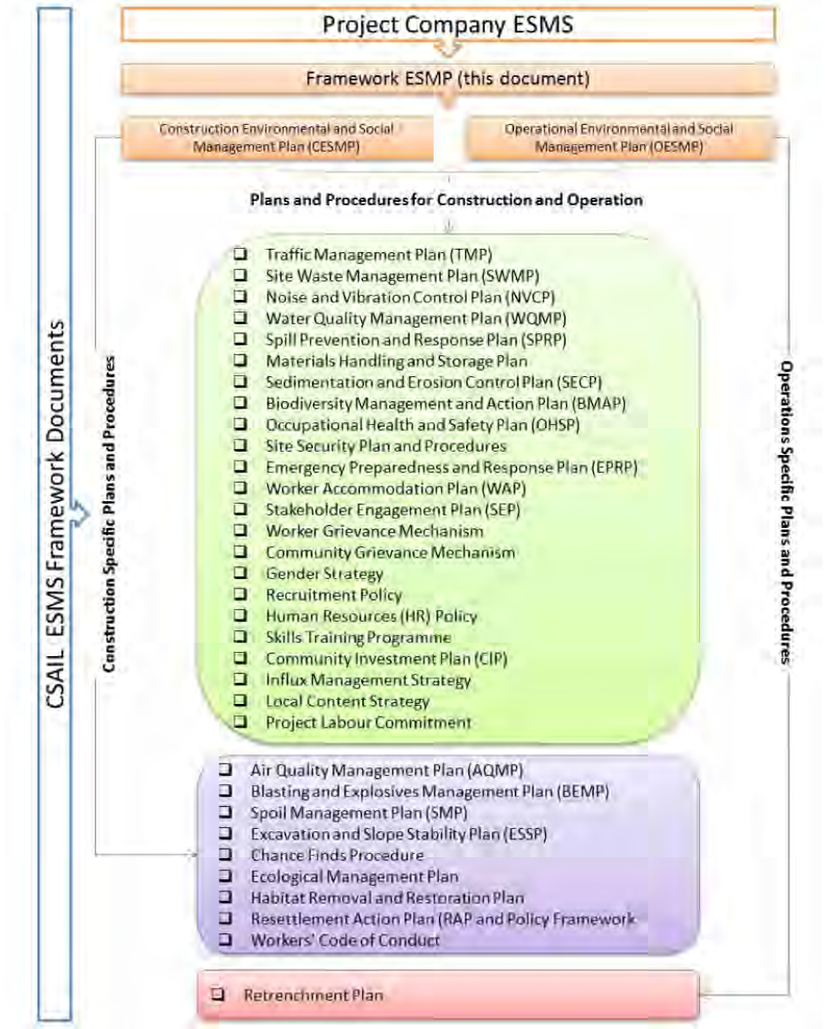


Figure 18 Policies, plans and procedures within the project company ESMS[14]

4.5 Reporting and disclosure

Recommendation 8: Report regularly and transparently on environmental and social performance

Besides reporting on financial performance and material risks, project companies should actively report on E&S performance – at least to the financial institutions, but ideally publicly. This has four advantages: (1) it satisfies the monitoring requirements from lenders over the life of the loans; (2) it provides an ongoing documentation of the E&S performance necessary to attract investors during later stages of the project; (3) it improves the environmental and social risk management mindset of the project company staff; and (4) it improves trust within the local communities due to increased transparency.

To meet the requirements of international lenders, for projects with medium to high potential E&S risks (Category A and some Category B under EPs' definition), Chinese sponsors should hire an independent E&S consultant or retain qualified and experienced external experts to conduct monitoring and reporting in a format and frequency (not less than annually) agreed upon earlier with lenders (required by EPFIs under EP Principle 9) and investors. Specifically, project sponsors should, at a minimum, make the summary of the ESIA and GHG emission levels publicly available. On top of that, they are encouraged to share commercially non-sensitive project-specific biodiversity data.

Ideally, Chinese project sponsors should also report against the asset evaluation and reporting frameworks subscribed by global investors. These evaluations and reporting tools (see Table 7) provide perspectives on methods, data types and granularity levels. They not only help infrastructure project developers and sponsors benchmark their E&S performances against industry best practices, but also largely enhance transparency and reduce the search cost for potential ESG investors.

Among these tools, the Climate and Environment Risk Assessment Toolbox (CERAT)[42], developed by the Green Investment Principles (GIP) Secretariat and supported by UK PACT, is tailored to guide Chinese project sponsors to quantify project-specific environmental risks and benefits, and demonstrate environmental and social responsibilities in their BRI projects. A dedicated database has also been created to increase transparency and showcase commercial viability of green projects. Chinese project sponsors for projects that are in compliance with both China's Green Industry Guidance Catalogue (2019) and the EU Green Bond Standard can apply to be listed in order to gain visibility among potential investors. Figure 19 shows the interface of the green project database which includes 37 projects to date and accounts for 28.64 billion USD project value in total.

Table 7: E&S benchmarking tools for infrastructure projects

Name	Types of Assets	Methodology	Output(s)
CEEQUAL	Infrastructure, civil engineering, public spaces, and landscaping	• User-provided data • External validation and scoring	**Rating:** Assessment score (percentage out of 100%) and award (excellent, very good, good, pass)

42 Check Climate and Environment Risk Assessment Toolbox (CERAT): https://gipbr.net/cerat.aspx?id=999&m=7

CERAT	Energy, Construction, Transportation	• User-provided data • Scoring	**Rating:** Assessment score on climate, environment (pollution etc.), water risks *Benchmark against EU Green Bond Standard, CBI, China's Green Industry Guidance Catalogue (2019), Common Principles for Climate Change Adaptation Finance Tracking (MDB-IDFC) to check green project eligibility*
GRESB Infrastructure Asset Assessment	Energy, Water, Waste, Transportation, Telecom, Data, Social, Real Estate	• User-provided data • Point scoring system • Validation • Peer benchmarking	**Rating:** Absolute score (out of 100), peer and overall rankings, Scorecard and Benchmark Report

Note. Modified from WWF Switzerland & Cadmus Groupu (2019)[43] with the addition of GIP's CERAT

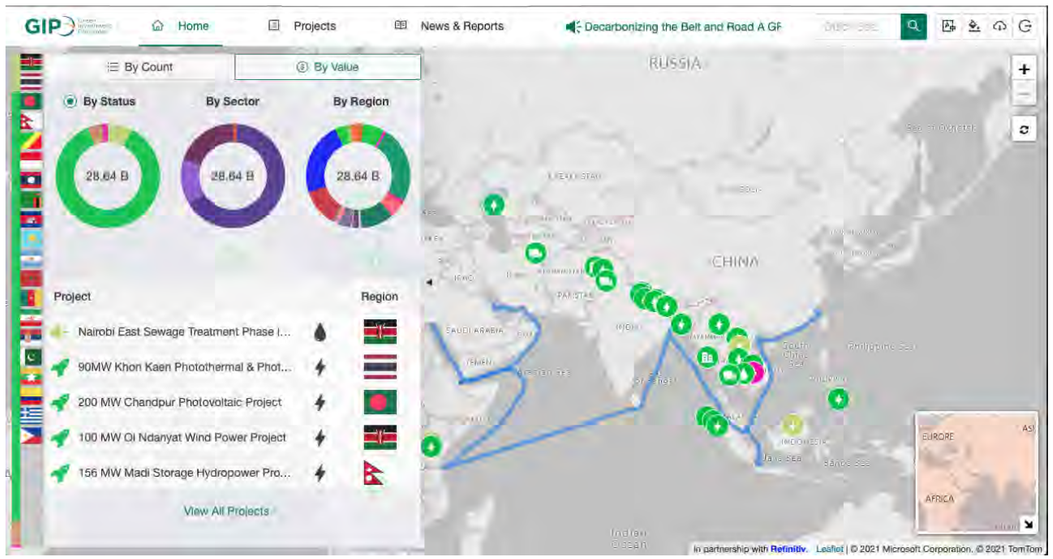


Figure 19 GIP's green project database (September 14, 2021)[44]

43 WWF Switzerland and Cadmus Group, "Valuing Sustainability in Infrastructure Investments: Market Status, Barriers and Opportunities," March 2019, https://cadmusgroup.com/wp-content/uploads/2019/03/WWF_Valuing-Sustainability-in-Infrastructure-Investments.pdf?hsCtaTracking=e8f1c695-bc51-4645-b813-7d7f4de1e766%7C153dcd76-d713-4736-a2bb-66bddda2e5be.

44 GIP, "Introduction to the Green Project Database," Green Investment Principles, 2019, https://gipbr.net/greenProject.aspx?id=777&m=7.

5. New financing mechanisms: opportunities for cooperation

This chapter introduces three new financing mechanisms to accelerate co-financing while allowing to address some of the gaps mentioned in the previous chapters. The three new mechanisms are sustainability linked loans, infrastructure securitisation platforms and blended finance co-lending platforms.

5.1 Sustainability Linked Loans to incentivise ESG improvement

In the loan market, innovative loan types such as sustainability linked loans (SLLs) are designed to incentivise borrowers to improve their overall sustainability performance. An SLL can be any type of loan instrument and/or contingent facilities. The borrower's sustainability performance is measured using predefined sustainability performance targets (SPTs) by predefined key performance indicators (KPIs). The sustainability criteria can include, for example, carbon emissions, social performance, biodiversity protection, etc. If the borrower's sustainability performance meets the targets, the loan conditions (e.g. interest rate, tenor, moratorium or even principal) improve for the borrower according to the contract.

The core difference between SLLs and green loans is that green loans define the use of proceeds ex-ante without much possibility to change the terms depending on the performance, while an SLL is performance-dependent. (Table 8). This also means that a green loan would only be available for green projects (e.g., as defined by PBOC, CBIRC etc.), while an SLL can be applicable to a variety of projects to improve sustainability performance.

Table 8: Comparisons between green and sustainability-linked loans

	Green loans	Sustainability Linked loans
Key characteristics	"Use of proceeds"	"Target setting" (SPTs and KPIs) and performance-based
Eligibility	Exclusive to green projects	Applicable to all borrowers' wishing to improve the sustainability profile

According to the Sustainability Linked Loan Principles[45], there are five core components for the SLL:

1. Selection of KPIs: should be relevant, core and material to the borrower's overall business, highly-strategic to current and/or future operations, measurable and able to be benchmarked.

2. Calibration of SPTs: SPTs should be ambitious (i.e., beyond "Business as Usual").

3. Loan Characteristics: an economic outcome (e.g. margin reduction) is linked to whether the selected

45 Asia Pacific Loan Market Association, Loan Market Association, and LSTA, "Sustainability Linked Loan Principles," May 2021, https://www.lma.eu.com/application/files/8416/2210/4806/Sustainability_Linked_Loan_Principles.pdf.

predefined SPT(s) are met.

4. Reporting: up-to-date information on SPTs should be provided to lenders at least annually and borrowers are encouraged to publicly disclose such information.

5. Verification: borrowers must obtain independent and external verification of their performance level against each SPT for each KPI at least once a year and public disclosure is recommended.

Table 9 summarises the lenders and borrowers' considerations when considering an SLL. In addition to the requirements dictated in the above Principles, lenders, and borrowers both have to consider the reputational risks and benefits associated with the loan agreement.

Table 9: Summaries of lenders' and borrowers' considerations when considering an SLL

Lenders' considerations	Borrowers' considerations
Selection of KPIs and calibration of SPTs	
Probabilities of the borrowers' not meeting the SPTs	Risks and consequences of not meeting the SPTs (i.e. costs vs. benefits of compliance)
Ongoing monitoring	Regular reporting and verification
Reputational risks and benefits	

Note. Adapted from James Hardy, Jeremy Duffy, and Mindy Hauman, "Sustainability-Linked Loan or Green Loan: Which? When? Why?," May 28, 2020, https://www.whitecase.com/publications/alert/sustainability-linked-loan-or-green-loan-which-when-why.

The reporting and verification requirements align with this handbook's overall recommendations for all project sponsors. With the growing concerns of ESG risks of overseas infrastructure projects from the lenders, financial institutions can build an SLL into one or multiple tranche(s) of the project loan structure. Meanwhile, project companies gain tangible economic benefits from improving their sustainability performance.

SLL is still at its infancy in the Chinese market. There is limited information to date on existing SLL arrangements domestically except for the first infrastructure SLL provided to TELD, Chinese leading EV charging infrastructure maker, by Shanghai Pudong Development Bank[46], and the five-year 1 billion HKD (129 million USD) loan signed with Bank of China (Hong Kong) being converted into an SLL deal by Sino Land, a Hong Kong property developer[47].

46 浦发银行 , " 浦发银行落地首单基础设施领域可持续发展关联贷款 ," 上海市国有资产监督管理委员会 , July 15, 2021, https://www.gzw.sh.gov.cn/shgzw_zxzx_gqdt/20210721/469c64a118c94d70ab7103ec3ec146f1.html.

47 Sino Group, "Sino Land Secures Its First HK$1 Billion Sustainability-Linked Loan from Bank of China (Hong Kong)," Sino Group, June 29, 2021, https://www.sino.com/en/media-centre/press-release/2021/sino-land-secures-its-first-hk$1-billion-sustainability-linked-loan-from-bank-of-china-hong-kong/.

5.2 Infrastructure securitisation platform to mobilise private capital

The issuance of Infrastructure Asset-Backed Securities (IABS) is a new financing instrument to mobilise private capital while recycling banks' illiquid balance sheets. Through securitisation and formation of a diversified portfolio of projects in a credit enhanced structure, it provides both the confidence and an opportunity for institutional and retail investors to tap into the overseas infrastructure financing landscape, which so far involves predominantly commercial banks, ECAs and multilateral development finance institutions. With additional ESG considerations while sourcing projects and/or special preferences towards green and sustainable loans, IABS has the potential to scale up the investments towards sustainable infrastructure, therefore, helping bridge the enormous infrastructure financing gaps. The set-up of an IABS platform (e.g., Singapore's "Take Out Facility") that connects the acquisition, warehousing, structuring and distribution activities will reduce the friction during the entire process, and bring the new asset class up to scale. This section describes the general concept of an IABS, the transaction process, and how Chinese stakeholders can benefit from it.

General concept

Different from traditional ABS, IABS's underlying asset is a diversified portfolio of infrastructure projects across regions and sectors. The issuance of IABS is underpinned by the idea of transferring the loan exposure from the commercial banks to the debt capital markets through aggregating and structuring the project loans into an investable asset class.

Figure 20 describes the transaction structure where the IABS sponsor acts as the platform that sets the selection criteria, acquires and warehouses loans and structures and executes the distribution. The IABS sponsor first sources the loans from the originating lenders. The activities at this stage include initial screening, credit analysis, due diligence and documentation. If the loans meet the selection criteria, the sponsor then executes the loan transfers, and holds them on its balance sheet ("warehousing") while building a diversified portfolio. An SPV will be established as the issuer for the sponsor to structure and distribute the IABS. The issuer also liaises with credit rating agencies to obtain the credit assessments of the portfolio and credit ratings of the rated notes. The collateral manager, who can be the same as the issuer, will manage and monitor the performance of the portfolio's assets.

To appeal to risk-averse institutional investors, especially those mandated to only be able to invest in investment-grade assets, IABS sponsors and issuers should:

- Establish a diversified portfolio across regions and sectors to mitigate associated political and commercial risks, the majority of which should be loans of operational projects with stable and predictable cash flows; a portion of loans should also already be credit-enhanced through guarantees from multilaterals and/or ECAs;

- Conduct stringent due diligence and credit assessment in liaison with credit rating agencies while acquiring the loans;

- Retain the subordinated notes, equity tranches, or equivalent, which provides the buffer to absorb initial losses if the underlying assets default.

Additionally, IABS can benefit from strong sponsorship partners, e.g. multilateral banks, well-established financial institutions or even government support (e.g. central banks)[48].

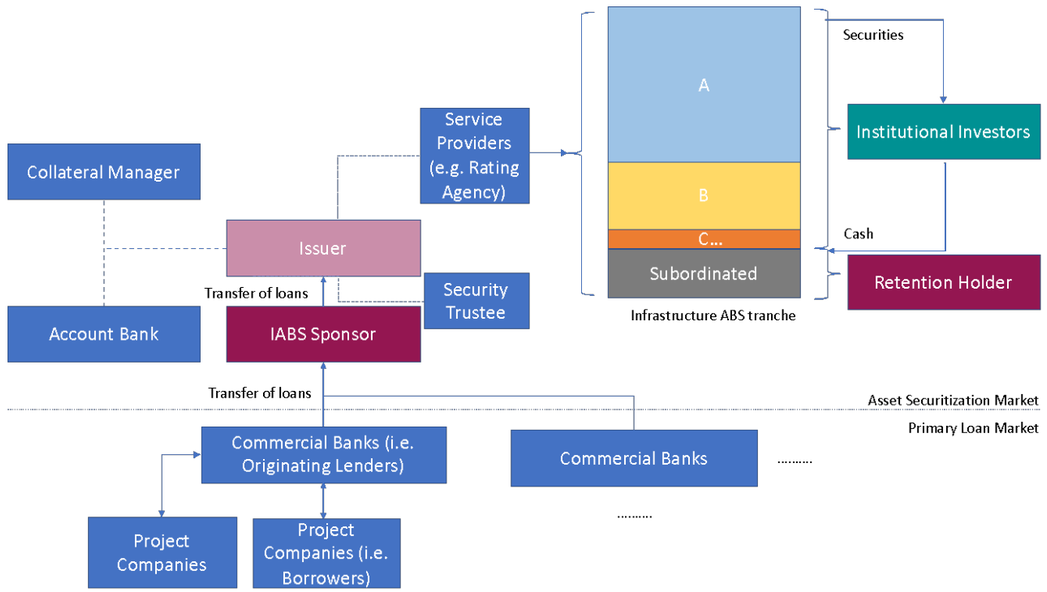


Figure 20 IABS platform structure

Note: Compiled by the authors.

Sustainability Integration

With the growing appetite from institutional investors and easier access to multilateral support for green and sustainable assets, the IABS sponsor can establish a sustainability tranche where the proceeds of sustainability notes will be applied to finance or refinance green and social loans. Such practices can leverage existing green and sustainability-linked loans the commercial banks already possess. For example, Bayfront Infrastructure Capital Pte. Ltd. ("BIC") II has issued a dedicated sustainability tranche, in the form of the Class A1-SU notes, where the proceeds will go to the green/social assets that meet Bayfront's Sustainable Finance Framework.[49]

From the risk management perspective at a broader scale, the IABS sponsor and collateral manager should conduct stringent ESG risk assessment and monitoring of the underlying project portfolio while sourcing and managing the portfolios.

Relevancies and Recommendations for Chinese stakeholders

The benefits of participating in the infrastructure securitisation platform are multifaceted:

48 Bayfront Infrastructure Management, "About Us - Bayfront Infrastructure Management," Bayfront Infrastructure Management, 2021, https://www.bayfront.sg/about.

49 Bayfront Infrastructure Management, "Bayfront Infrastructure Capital II," 2021, https://www.bayfront.sg/bic2.

- For lending banks, it injects liquidity to banks' balance sheet, and ultimately increases their lending capacity while still satisfying regulatory capital requirements;

- For project companies (borrowers), well-prepared and bankable projects will be even more attractive to lenders in the first place given lenders' confidence to exit via a securitisation platform;

- For institutional investors, it helps them gain exposure to infrastructure loans, and such securities cater to their long-term, normally conservative investment needs;

- For retail investors (if the IABS is on the secondary market), it helps "democratise" project financing and allow retail investors to participate in overseas project financing.

However, challenges and barriers do exist for Chinese project companies and financial institutions to get involved. Some of the reasons are consistent with the gaps we identified in Chapter 3:

- The existing project loan documentation lacks standardisation and consistency, which only increases difficulties for future securitisation or refinancing;

- There is a lack of pipeline of bankable projects sponsored by Chinese companies. Most of the BRI projects are not in mature markets with investment grade ratings. If not properly mitigated through ECA and multilateral instruments such as insurance or guarantees, these projects will be very unlikely to meet the loan selection criteria;

- The ESG considerations, despite ever-growing, are often missing in project preparation, construction and operation for Chinese project sponsors and financial institutions. This factor alone might restrict certain loans from being selected;

- The project structure might be too complex with too much government dependencies (e.g., through sovereign backed guarantees) to be interesting to institutional investors.

In correspondence, we propose four recommendations (similar to Chapter 4) to accelerate future IABS application:

1. Chinese financial institutions and project sponsors should conduct stringent due diligence with ESG considerations in line with international best practices, during the project preparation;

2. They should utilise ECA and multilateral guarantees wherever possible to enhance the bankability of the projects;

3. Project companies need to measure and report its performance (including environmental and social performance) diligently and ideally through an independent third party to build trust in infrastructure asset management for future securitisation;

4. Chinese financial institutions and project sponsors should form contracts with standardised clauses in a transparent manner, which helps connect it to a larger pool of assets structured similarly.

Learning from Singapore's successful launch of BIC and BIC II, China might also wish to initiate its own IABS platform. China International Capital Corporation Limited (CICC), China's leading investment bank, can collaborate with multilaterals such as AIIB and MCDF to form a joint-venture as a pilot platform. GIP's existing green project database can serve as the initial marketplace for the platform to source green loans across regions and sectors from different originating lenders. However, as emphasized above, the key

success factor is the sourcing of well-prepared and bankable underlying projects, and it will take a lot of time and efforts to design and launch a viable IABS platform.

5.3 Blended finance co-lending platforms for credit enhancement

Credit enhancement for infrastructure in emerging markets has largely depended on sovereign-backed financiers such as MDBs. In frontier markets where project bankability is extremely challenging to achieve, MDB co-lending platforms could be developed or expanded with innovations to de-risk projects and crowd in private-sector investors.

MDB-led co-financing platform could credit-enhance infrastructure projects in emerging markets in two major ways:

- The intangible "halo effect": MDBs are viewed by credit agencies and investors as being more capable of mitigating nonfinancial project risks especially in relation to the host country governments and in difficult times;

- Co-lend with private investors: MDBs invest in a first-loss equity or subordinated debt tranche while private investors participate in the senior tranche. The use of public capital as a cushion provides the private investors with an investment-grade profile, such as in PIDG's Emerging Africa Infrastructure Fund (EAIF) and IFC MCPP's "B Loan Model";

- Integrate regular and innovative credit enhancement tools, such as the IFC MCPP's Credit Mobilisation Model.

In general, key considerations for designing such platforms include:

- Clearly define the focus of the platform to ensure additionality and effectiveness, e.g., the market gap and types of risks it intends to address, and regions and sectors it intends to focus on and the instruments needed.

- Come up with a clear and direct investment mandate for easier execution and control over the set-up cost.

- Set up governance to allow delegated autonomy for investment decisions based on commercial principles. This is typically structured as appointments of a private sector fund manager, as well as appointments of personnel to the Board and Investment Committees.

Based on the experience of PIDG EAIF and IFC's MCPP, the following recommendations for Chinese stakeholders are relevant:

1. Aim for an EAIF-style debt fund for emerging markets e.g. Asia and Africa. Investors have indicated interest in a PIDG EAIF-style debt fund for emerging markets in Asia, which operate as a blended finance vehicle to provide long term mezzanine debt and incorporates other credit enhancement providers to address specific risks, e.g. GuarantCo for currency covers.

2. Aim to provide alternative credit enhancement arrangements and diversify financing sources, especially for less bankable projects for example in the transport sector.

3. For the design of governance structure and introduction of international experts, cooperate with partner organisations that have indicated interest in further developing this concept on the programme, such as PIDG EAIF and its Fund Manager NinetyOne, and HM Treasury's Infrastructure Financing Exchange (IFX).

4. Work with multilateral institutions where China is a member, e.g., AIIB and NDB, and leverage existing initiatives such as the Multilateral Cooperation Center for Development Finance (MCDF).

Box 7: IFC's Managed Co-Lending Portfolio Programme (source: IFC and KPMG)

The Managed Co-Lending Portfolio Programme (MCPP) is a loan origination and debt syndication platform launched by IFC in 2013, with an initial allocation from China's State Administration of Foreign Exchange. MCPP Infrastructure began in 2017 exclusively targeting emerging market infrastructure investments.
MCPP has deployed three product types targeted at different investors. Each model varies slightly in format, but ultimately involves IFC as originator of loans and application of structured finance techniques to credit-enhance the overall portfolio.
1. Trust Funds: for sovereign investors
2. B Loans: for institutional investors
3. Credit Mobilisation: for insurance companies

Figure 21 MCPP Product Type

"B Loan" Model

The "B Loan" model (also MCPP Infrastructure) was designed to target infrastructure loans in emerging markets and institutional investors (e.g., pension, insurance funds). Compared with the deal-by-deal A/B loan model, MCPP reduces transaction costs as IFC signs upfront administration agreements with investors setting eligibility criteria and concentration limits. Once IFC decides to make a loan for its own account, it automatically creates a parallel tranche for the MCPP investor on the same terms and conditions. The key allocation driver is for IFC and MCPP investors to invest in equal amounts unless the investor hits a concentration or single-name limit. All allocations between MCPP investors is on a pro-rata basis.

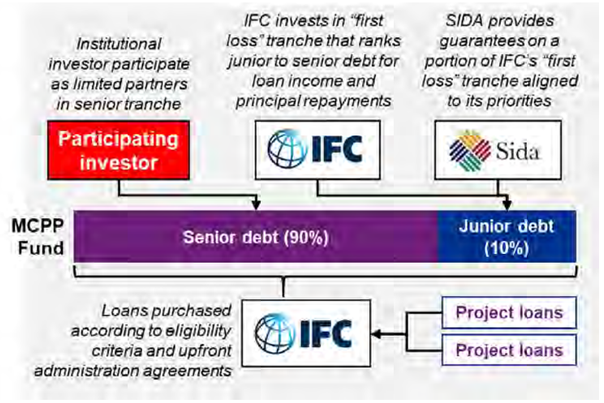


Figure 22 B Loan Model

Credit mobilisation model

Credit Mobilisation is IFC's innovative credit insurance solution that expands the pool of long-term funding available for emerging-market firms by applying the risk-bearing capacity and know-how of insurance companies. MCPP provides two approaches:

• Standalone approach: Insurers are invited to participate in individual projects on an as-needed basis, similar to the syndication process for B Loans. IFC and insurers sign a standalone insurance policy during the investment process.

• Portfolio approach: MCPP builds a portfolio that mimics IFC's own future portfolio or subset thereof—similar to an index fund (Figure 23). As IFC identifies and disburses funds for eligible deals, insurer exposure is allocated alongside IFC's own per the terms of the agreement.

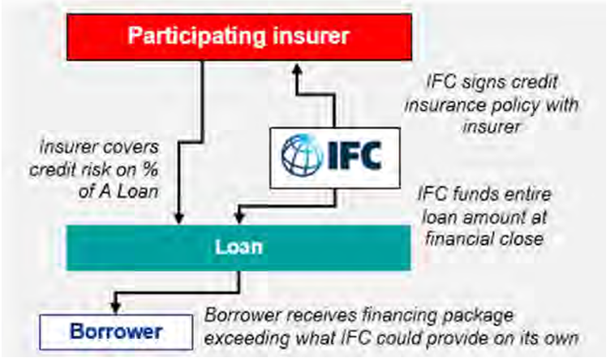


Figure 23 Credit Mobilisation Model

5.4 Summary

The three new financing mechanisms differ in applicable project phases, audience, benefits and challenges (see Table 10):

- A Sustainability Linked Loans (SLL) can be considered at the feasibility and (re)financing stages. Project sponsors who have ambitions to improve their sustainability performance, and lenders who are interested in supporting on that can explore an SLL contract. The benefits include decreased ESG risks and improved reputation for both, and beneficial loan arrangements for the project sponsors, if

the SPTs are met. Meanwhile, it is challenging and costly to conduct continuous regular reporting and verification for the project sponsors and likewise for the lenders' ongoing monitoring. If the SPTs left unmet, it will bring reputational risks.

- The infrastructure asset backed security (IABS) platform is most applicable to operational projects or those near the end of construction. Lenders interested in recycling their illiquid capital of project loans can participate with their eligible loans. IABS helps lenders free up their balance sheets to originate new loans, which are beneficial to project companies as borrowers. However, there is still a lack of bankable projects, especially in emerging markets, and no standardisation among loan clauses, which makes it extremely difficult to source and structure. It is challenging to get government sponsorship in order to further boost market confidence of the IABS among investors. Thus, some risk-averse investors will be particularly hesitant.

- The blended finance co-lending platform applies to feasibility, financing, construction and early operation. The target audience includes public financiers, private investors and insurers, project sponsors, especially those in emerging markets. It helps reduce transaction costs, and usually provides a "first-loss cushion" to offer private investors an investment-grade profile. Nevertheless, it takes 3-5 years for concept design and initial market traction. The current attempts are still at an early stage, and in need of a scale-up.

Table 10: Summary table for Sustainability Linked Loan (SLL), infrastructure asset backed security (IABS) and blended finance co-lending platform

Financing models	Applicable project phases	Applicable for whom	Benefits	Challenges
Sustainability Linked Loan (SLL)	Feasibility, (re) financing	Project sponsors aspired to improve sustainability performance and lenders who wish to support while decreasing ESG risks	• Beneficial loan arrangements, decreased ESG risks, improved reputation for project sponsors • Decreased ESG risks and improved reputation for lenders	• Continuous regular reporting and verification from the project sponsors • Ongoing monitoring from the lenders • Reputational risks if the SPTs are left unmet for both, esp. project sponsors
Infrastructure asset backed security (IABS) platform	Late construction, operation	Lenders interested in recycling capital, institutional and possibly retail investors	Free up banks' balance sheet and improve their lending capacity	• Lack of bankable projects with proper ESG considerations - difficult to source eligible projects • Unstandardised loans - difficult to structure • Lack of government support to further de-risk IABS • Hesitance among risk-averse investors
Blended finance co-lending platform	Feasibility, financing, construction and early operation	Public financiers, private investors and insurers, project sponsors esp. in emerging markets	• Reduce transaction costs compared with deal-to-deal model • Provides a "first-loss cushion" to offer private investors an investment-grade profile	• Concept design and initial market traction take at least 3-5 years • Still in early stages and need to scale up for wider market adoption

Appendix A:Current International Project Finance Practices

The following chapter summarises current practices and standards of international project finance in emerging markets. It describes the required activities of project sponsors to satisfy the needs of financial institutions and other stakeholders along the project lifecycle.

A.1 Project initiation

Projects are initiated depending on the local circumstances and the project by different means:

· governments will initiate a project through a public tender, for example after its energy planning calls for more power station investments

· project facilitation funds and agencies will initiate a project as they have perceived the need for a project, e.g., on urban resilience for climate adaptation

· project developers will initiate a project to expand their business in the host countries and would take a higher financial risk

A.2 Pre-feasibility

The goal of the pre-feasibility phase is to gain an initial understanding of the feasibility of a project. It also includes identification of key risks, especially those that might prevent the project from going forward, such as the purpose of the project, analysis of environmental and social impacts, economic and social benefits etc.

Depending on who initiated the project, the pre-feasibility phase lasts between a few weeks to a few months long. For example, projects that are initiated through a public tender often have many of the requirements and cooperation partners (e.g. off-takers) already laid out, which limits the need to identify and find relevant information. Contrary, projects that are initiated by an overseas project sponsor require more time and effort to conduct a pre-feasibility study as the project sponsor would need to get a better understanding of the local circumstances and needs.

Financial pre-feasibility

The project sponsor is the financial pre-feasibility and should thus have a basic understanding of the capital needs and revenues of the project. The sponsor should evaluate different structures of financing, e.g. debt/equity ratios (typically around 75/25), sources of debt and equity, the timing of capital injection (e.g. determined by the ability and willingness of project sponsors to pre-finance parts of the feasibility phase before loans have been secured). Furthermore, a basic understanding of taxes, subsidies and exchange rate risks should be included to complete the financial pre-feasibility.

Technical pre-feasibility

The technical pre-feasibility typically aims to understand the basic technical requirements to implement the project. It therefore often includes a visit to the project site by relevant engineering or civil engineering experts to understand local environmental circumstances, availability of materials and construction capacity, etc.

Market pre-feasibility

The market pre-feasibility evaluates the potential of generating revenues through the project and could include a benchmark analysis with similar projects in the country.

Partners and project governance

Once most of the pre-feasibility has revealed that the project makes commercial sense and is technically and legally feasible, the project sponsors often reach out to relevant project partners to scope interest in participating in the project and possible division of responsibilities, contributions, risks, and benefits. Key project parties include[50]:

· Project sponsors/shareholders: promotor of the project; usually they (or one of their associated companies) are involved in some aspects of the project such as construction, O&M, purchase of the output and ownership of land.

· Advisors: e.g.,

  o Financial advisors

  o Legal advisors

  o Environmental advisor

  o Market risk advisor

· Third-party equity investors: investors looking at the project purely in terms of a return on their investments for the benefit of their own shareholders, e.g.,

  o Equity funds

  o Development funds

· Creditors for loans, e.g.,

  o Commercial banks

  o Developing financial institutions (DFIs)

  o Export credit agencies

· Host government and regulators (e.g., licenses issuers)

· Construction companies: companies commonly responsible for designing, procuring, constructing, and commissioning the project facility

· Suppliers: companies providing essential goods and/or services to the project

50 "A Guide To Project Finance" (Dentons, 2013), https://www.dentons.com/en/insights/guides-reports-and-whitepapers/2013/april/1/a-guide-to-project-finance.

· Offtakers: purchasers of project services (e.g., local electricity company for a power plant)

· Operators: companies responsible for day-to-day operation and maintenance of the project

· Insurers (e.g., for political, project, exchange-rate, revenue, technical, catastrophe and other risks)

In this phase, it is also important to have a responsible party steering the project from beginning to financial close. With many parties in the project often having conflicting interests, effective project management assumes great importance to reducing costs and increasing efficiency.

A.3 Feasibility

The goal of the feasibility study is to comprehend the opportunities and risks associated with any given project. Most of the project failures have their roots in an insufficient, incomplete or hasty feasibility study, e.g. as technical feasibility underestimating the complexity, financial feasibility intentionally or unintentionally underestimating total investment and overlooking potential costs or overestimated usage, environmental and social feasibility not consulting with relevant stakeholders and/or qualified independent consultants overlooking nature or social -related risks.

Financial institutions rely on the quality of the feasibility studies for their evaluation of the project feasibility. If they perceive the provided information by the project sponsors as insufficient, they will require an improvement of the relevant aspects which delays the project and increases costs (and undermines trust) or they could drop out from financing the project.

Therefore, it is crucial for the sponsor to understand the needs of the relevant stakeholders, including the relevant financial institutions, in regard to the diligence and standards applied in the feasibility study.

For the following sections, it is important to note that the project steps often take place in parallel and overlap and depend on each other, depending on the specific project characteristics.

Technical analysis/feasibility

As it is not always clear to the lenders, bondholders, and rating agencies what the features of the project's construction and engineering are, a specialised technical consultant helps evaluate the deal to decide whether or not to support it.

The technical consultant, also known as an independent engineer or independent technical advisor, is responsible for expressing an opinion on the project's feasibility, surveying to evaluate it, and acting as the controller to safeguard the project.

The technical consultants will be present at various stages across the project and will at times be jointly present for the sponsors, constructors, and banks independently.

Activities performed by independent engineers include:

1) Due diligence reporting

2) Monitoring realisation of the project (E&C, engineering, and construction)

3) Assistance during acceptance of the plan

4) Monitoring operations management

The resulting report produced helps to critically analyse the technical aspects of the deal and to evaluate technical factors that lenders and investors may not have the technical expertise for. The focus of the technical advisor is to review the technical and technological variables of the project. It does so by checking that the technical variables included in the financial model are acceptable and gives an opinion on the cost forecasts for the project. The confirmation of the fundamental project variables by an independent engineer is an important factor in the bankability of the project.

Ultimately, a due diligence report will be produced with the following documents: preliminary feasibility study with draft of financial plan, project outline, market analysis, information memorandum indicating the main parties involved in the deal (sponsor, constructor, buyers and suppliers, banks, insurance companies, etc.) and financing term sheet, supply and procurement contracts, definitive agreements (including without limitation, agreements involving two or more of following parties: investors, hosting governments, financial institutions and other stakeholders), authorisations, permits, licenses, and concessions, service and construction contracts, security package, etc.

Financial Advisory and arranger financial institution

In order to gain a first understanding of the project finance transaction, project sponsors can hire financial intermediaries, which provide advisory services. Together with the project sponsor, the financial advisor will develop the financing mix options to ensure that the project has the necessary financial support. Their work includes investigating and discovering financial documents organised or formulated in the past practice of the project company, defining and identifying the risk profile of the deal, its time schedule, and the size to make it bankable so that a financing model can be proposed to potential lenders and investors.

Advisory services can also include conducting studies and analysis to determine a preliminary valuation for the financial feasibility of a project. Initial advisory services concern gathering technical, legal, and fiscal information regarding the project, parties involved, localisation of the venture, and political and administrative factors. The information gathered is used to evaluate the impact of the variables on cash flows, profitability, and the equity structure of the SPV.

The financial advisor's outcome is an information memorandum that is used by the advisor to contact potential lenders to negotiate the credit agreement and loan documentation with the main financial institution supporting the deal ("the arranger"). The arranger will be contacted early.

Legal Due Diligence

The legal due diligence (LDD) is a report prepared by the arrangers' lawyers for their clients providing a summary of the project and its bankability. The report is usually one of the conditions to be met before financing can be granted. The report includes:

1) Nature and characteristics of the project company

2) Project contracts

3) Administrative concessions and permits

4) Existing litigation

5) General regulatory framework for the project

6) Legal issues in respect of labour, environment, and land

7) Legal opinions

8) Formal and technical legal opinion that analyses in detail how it is structured beyond the scope of the book.

a. The project company has been validly incorporated in compliance with law.

b. Legal, valid, binding, and enforceable nature of finance documents and project contracts signed by the project company and other parties.

c. Validity of collateral that secures credit facilities granted by lenders.

d. Ownership of project assets by the project company.

e. Validity of licenses, concessions, and other administrative permits.

f. Existence of and any restriction referring to convertibility of foreign exchange, tax withholding on interest payments, and other taxes which may affect the project.

g. Validity of specific clauses concerning damages, gross up, calculation and payment of late payment interest.

h. Etc.

Environmental and social impact assessment (ESIA)

During an environmental and social impact assessment (ESIA), the project sponsor is responsible for evaluating possible environmental and social impacts of the project. In this process, the project sponsor should also evaluate alternatives to the project in terms of technology and location to minimise environmental and social risks, and design appropriate mitigation, management, and monitoring measures for the project's environmental and social risks.

ESIAs are often locally required by law, yet standards and procedures for ESIAs vary in different countries. In order to compensate for the differences and reduce environmental and social risks of a project, particularly EPFIs have specific requirements for ESIAs, also to compensate for financing in markets with "evolving technical and institutional capacity." Accordingly, the EPFIs

1. Categorise projects into three categories depending on their environmental and social risks and impacts: A with high risks, B with medium risks and C with low risk (Principle 1);

Box 8: Equator Principles Categories

- Category A – Projects with potential significant adverse environmental and social risks and/or impacts that are diverse, irreversible or unprecedented;

- Category B – Projects with potential limited adverse environmental and social risks and/or impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures 2;

- Category C – Projects with minimal or no adverse environmental and social risks and/or impacts.

2. Require their clients – that is the project owners – to conduct appropriate environmental and social assessments depending on the scale of impacts of the projects. In this case, A and relevant B projects will require accurate and objective evaluation of the environmental risks, which can be prepared by the client, consultants, or external experts. For category A and relevant B projects, the developers need to also prepare a climate change risk assessment based on the TCFD. Furthermore, the EPFIs expect the project owners to present measures to minimise, mitigate, and where residual impacts remain, compensate/offset/remedy for environmental and social impacts (Principle 2);

3. Evaluate a project's compliance with applicable environmental and social standards depending on the host country's status as a designated country – where project ESIAs in non-designated countries with lower local ESIA standards would be evaluated against applicable IFC performance standards and World Bank environmental, health and safety guidelines (Principle 3).

The EPFIs also require their clients to demonstrate effective stakeholder engagement (Principle 5) that includes informed consultation and participation tailored to the local needs and the project' s risks and impacts on the local communities. In this regard, the EPFIs particularly responds to the needs of indigenous peoples and require a special Informed Consultation and Participation in combination with the application of IFC Performance Standard 7 for Free, Prior and Informed Consent (FPIC) of affected Indigenous Peoples. EPFIs will require an independent and qualified consultant to evaluate this consultation process with Indigenous Peoples.

The EP understands themselves in this regard as a "minimum standard required by the EPFI," rather than as an upper benchmark.

SPV Governance

Early in the feasibility phase, relevant project sponsors should agree on the structure and governance of the SPV. Key considerations are, for example:

· the responsible party for the management of the project vehicle

· the staffing of the SPV (e.g., will staff be seconded from sponsors or does the SPV hire additional people)

· the responsibilities of the different sponsors of the SPV

· the sponsor financial contributions to the SPV (including the timing and the form of the contributions – e.g., debt, equity, in-kind)

· voting requirements for operations and changes of the SPV

· Dispute resolutions

· Stakeholders' involvement

· Key operational and/or business plan for the project

Another important consideration of the SPV governance is the possibility to sell shares or pre-maturely exit the SPV. Often project lenders prefer a stable shareholder group of the SPV.

The governance needs to be contractually specified as any lender will expect to see this arrangement formalised. And most lenders would expect to have powerful and experienced shareholders on board when they determine the key operational measurements as past experience would be a great plus for the lenders to be confident that the project would be well taken care of by having experienced investors in the construction and operation phases.

Project documents

During the feasibility study, the project sponsor and project developer need to obtain a number of relevant project documents. These documents are relevant to secure the legality of owning the project, good-standing of the project company, proper operation and thus the cash-flow of the project, as well as to minimise the risk of the project that might be affected by the local regulatory authorities on the ground of lack or flaw of key documentation. Notwithstanding anything previously agreed by the authority, keeping the documents' legal status would be a laborious task.

Depending on the project and the financial institution requirements, some of the documents might be already contractually binding, while probably most will be in the form of a letter of intent or memorandum of understanding. Relevant project documents include:

1) Concessions from public administration: Element for when public works or works of public interest subject to a government concession are realised using project finance,

2) Certificate, license, permit or grant of permission required by the laws to start project works,

3) Contracts for the use of third-party assets or rights: Legal documents where the project is assured rights that are necessary for its realisation. Could be tangible rights such as access to an area or intangibles such as allowing the use of a given technology or patent/license.

4) Rights relevant to the area where the project works will be developed: Necessary rights regarding the site where the project will be developed such as rights of ownership or building use rights.

5) Contracts for the project construction and engineering works and relevant subcontracts: Documents that regulate the project area subject to the most risk.

6) Operation and maintenance management contracts and technical consultancy contracts: Often covered by the OM contract and represents other essential project contracts applicable to the operational stage.

7) Bonds and guarantees for project contracts: Guarantees or performance bonds from banks or third parties with adequate financial solidity (parent or holding company of one of the parties to the project contract).

8) Insurance: Adequate insurance coverage for risk exposure and is an aspect regulated in a detailed manner in the credit agreement.

9) Procurement contracts for raw materials required for project operations.

10) Sales contracts: Contracts that generate the company's income.

A.4 Financing

The arrangement of financing should start as early as possible - possibly in the pre-feasibility, and latest in the feasibility phase. This allows the project sponsors to address the requirements of involved financial institutions throughout the evaluation and development of the project. These considerations can include, for example, environmental, social and governance (ESG) considerations, as well as economic considerations.

Instruments and the structure applied in project financing need to be tailored to the project's needs by developers and investors. The choices depend on the perceived risks and the expected costs and returns. Among the risks are, for example, country risks, exchange rate risks, technical risks etc. A summary of risk types, description and mitigation measures is shown in Table 11.

Table 11: Mitigation measures for different types of risks (compiled based on Clifford 2021[51])

Risk Types	Risk Description	Mitigation Measures
1. Sponsor Risk	Project sponsor failed to support the project for its completion or sponsor related risks lead to the failure of the project.	- (Sponsor) provides project construction completion support: contingent equity, cost overrun guarantee, full completion guarantee. - Provide sponsor limited recourses support: which can take the form of guarantee for revenue offtake contract (support typically consists of price floor on commodity risk projects/ a limited cash flow deficiency guarantee. - Conduct comprehensive due diligence: assess the experience and creditworthiness of project sponsor.
2. Political Risk	Political unrest and war/riots, nationalization/expropriation, currency convertibility/transfer.	- Explicit political risk insurance (covering sponsors' equity investment and lenders' loan exposure). - Implicit PRI cover: Multilateral development banks (MDBs) lending.
3. Project Approval and Permit Risk	Ensuring that all required government and municipal approvals and permits are obtained and in full force and effect to allow the project to acquire the site and commence construction activities is an often-overlooked project risk. This risk can be highly problematic for pipeline and transmission line projects requiring rights of way and permits across large land tracts. In some emerging markets where land title laws are not well defined, this can prove to be a complicated and protracted process.	- Pass this risk on to the relevant local or central government authority to secure the necessary project permits and rights of way as a precondition to issuing the Notice to Proceed (NTP) to the EPC contractor to start construction.

51 Clifford, Project Finance.

4. Construction and Completion Risk	Infrastructure projects entail large/complex construction which requires long-periods of construction. This will lead to potential cost overruns, delays, and shortfalls of performance.	- Use fixed price, date-certain turnkey EPC contracts. - Due diligence on EPC contractor that should have recent and relevant experience with the project in question and a solid track record of completing these projects on schedule and within budget, project should not represent more than 10–15% of the EPC contractor's total revenues. - EPC contractor should provide financial guarantees/ surety bonds to back- stop the completion and performance guarantee as defined in the EPC contractor. - EPC contractor needs to have a minimum credit rating of single A. - Contain penalties or Liquidated damages (LDs) for construction delays due to the fault of the EPC contractor in the EPC contract. - Keep completion undertakings as loose/flexible as possible in the corresponding offtake contract to minimise potential negative financial impact on the project company. - Ensure there are carve-outs in the EPC contract for delays due to change in scope of the project, change orders, site condition, change in law, and so forth. At a minimum, any of these carve-outs in the EPC contract should be mirrored or passed through to the offtaker in the offtake contract. - Inclusion of construction cost overrun contingencies in project costs. - Limited sponsor completion support. - Inclusion of a separate cost overrun. - Conduct a 90-day performance test before the EPC contractor is released from their construction contract obligations. - Contain performance penalties/LDs due from the EPC contractor to cover any performance shortfall in the EPC contract.
5. Operation and Maintenance risk	It is a risk that relates to the project's capacity to operate at optimal design specifications consistent with the requirements of the offtake contract.	- Choose the project operator to be one of the project sponsors. This dual role of sponsor and operator creates a positive alignment of interests, which ensures the project will operate as expected. - Include a penalty/bonus payment feature in O&M contract. - For cost-plus contracts, have lenders' Independent Engineer (IE) review approve the initial operational cost budget and allow automatic annual approvals subject to the next annual operational budget being within ±10% of the prior annual budget cost. - Maintain a 3-/6-month O&M reserve account for overruns. - Include a major maintenance reserve account funded from project cash flows to cover major maintenance costs for the project.

6. Supply risks	It is a risk that is related to the project containing long-term fuel or feedstock supply contract. For example, a gas-fired power project with a 20-year offtake contract will require a matching gas supply contract for delivery of natural gas in the volumes and specifications required.	- Ensure that supply costs can be fully passed through to the offtaker and that there is contract harmony between the supply contract and the offtake contract. - Have a temporary backup fuel supply on site. - Obtain natural force majeure insurance or business interruption insurance.
7. Reserve risk	Oil and gas as well as mining projects, which entail the commercialisation of finite, proven reserves, require lenders to assume reserve risk when lending: the risk is that the projected reserves do not materialise as expected.	- Only provide financing against a discounted percentage of the proven and probable reserves as determined by a reservoir engineer acting on behalf of the lenders. - Require maintaining a minimum" reserve tail" (typically 30%) as an insurance buffer.
8. Sales/offtake risk	It is a risk that is related to the fluctuation of volumes and price in the offtake contract which underpins the revenues and cashflows of the project. For example, oil and gas, mining, and petrochemical project entail commodity price market risk on the production output.	Four types of contracts can be used to mitigate this risk: - Take-or-pay contract stipulates that the offtaker either must take the project production output or make a payment with respect to this production output. For power deals, the offtake contract typically comprises a capacity payment and an energy payment. - Use long-term sales agreement to assign production volume risk to the offtaker, who provides a minimum volume offtake commitment at the prevailing international market price for the commodity output in question. - Use availability-based Contracts. For example, the entity contracting for transport and transmission services is required to make a firm payment regardless of the quantum of natural gas or electricity transported or transmitted-so long as the project is "available" to provide these services. - Use concession contracts for infrastructure projects such as toll roads, airports, ports, social infrastructure, the project company is granted a fixed concession period (20-30 years) under which it is required to provide services meeting minimum performance standards. Within concession contracts, usage risk mitigation typically entails the use of traffic studies and government minimum revenue guarantees.

9.Social and environmental risks	Projects might have negative impact of the society and the environment. For example, bad labour conditions, pollutions and biodiversity loss caused by project.	- Lenders can adopt certain formal principles and procedures for analysing, assessing and mitigating environmental and social risk such as Equator Principles.
10. Financial risks	It is the risk related to external macroeconomic events such as changes in interest rates, inflation, and foreign exchange risks. Interest rate risks arise because commercial banks lend on a variable interest rate basis using the London Interbank Offer Rate (LIBOR) as the funding basis. Foreign exchange risks usually arise in connection with the construction contract whereby equipment may be procured in different currencies, whose changes could negatively affect project costs.	- For interest rate risk: Lenders provide interest rate swaps under which the project company executes an Inter- national Swaps and Derivative Association (ISDA) to swap the floating rate interest rate for a fixed interest rate. - For inflation risk: Enter into forward FX contracts for the construction period to lock in or fix the FX rate. - For inflation risks: include inflation indexing in offtake revenue contracts and harmonize inflation indexing across all key project contracts.
11. Force majeure (FM) risk	The risk is brought by force majeure which refers to unforeseen and unavoidable events beyond the control of the affected project contract counterparty that impedes or prevents the ability of said contract counterparty from performing under the contract. FM events are either natural FM events (accidents, floods, hurricanes, etc., considered acts of God) or political FM events (war, riots, civil unrest, changes in law/ regulation, strikes).	- Purchase private insurance such as delay in start-up (DSU) insurance and business interruption (BI) insurance to cover for natural FM events. - Allocate political FM risk to the government.

Furthermore, the choice of financing depends on the availability of financing choices, as well as the requirement for flexibility for adopting financing structures throughout the project phases.

Developers and investors should be aware that no single particular financing instrument or structure is necessarily optimal for financing infrastructure projects or fulfils all project requirements. Therefore, investors and financial institutions should weigh the relative merits of each financing choice.

Developers and investors should also note that particularly EPFIs, as well as many other financial institutions, have specific and differentiated requirements for environmental and social risk management

and due diligence depending on the project categorisation.

Debt financing

As projects can require billions of investments, they often require multiple lenders. To reach multiple lenders, project sponsors appoint one or more banks as arrangers to organise and grant the financing. Once the structuring of the project finance is complete, arrangers will syndicate the transaction in the banking market. Having a financial arranger means that the project sponsors are given a guaranteed availability of funds as the arranging banks underwrite the funding for the project and thus take higher risk than other syndicate banks. The arranging banks ideally have stronger capability in assessing the project in regard to its potentials and the specific risks (e.g. country, project, environment) and/or in the better position to have great understanding of both sponsors (key investors) and project itself. The arranger can also be the financial advisor as the case may be. Accordingly, the following documents are necessary at this stage for the arranging bank(s):

1) Mandate documents or commitment documents which include i) a letter of mandate appointing arrangers to organise the financing ii) a letter of commitment where arrangers commit to arranging and underwriting a project finance deal on the basis of a term sheet summarising the main financial and legal terms of the deal

2) Credit agreement

3) Security documents that detail the package of collateral granted for the financing.

4) Intercreditor agreement that regulates relations between lenders

5) Ancillary documents related to the credit agreement: fee letters (commissions to arrangers).

6) Contracts concerning the equity capital investment made available to the project company by the sponsors, equity contribution agreement

7) Other documents concerning financing in the event where sources of project financing are not limited to the credit agreement and equity capital

8) Hedging agreements to buy protection from interest, currency, and exchange rate-related fluctuations and risks

9) Direct agreements that cover the area between security documents and project contracts.

10) The creditworthiness of involved parties

11) Due diligence and contracts/letters of intents with project suppliers/contractors

12) Due diligence and contracts/letters of intents with off-takers

The arranger will organise – at the cost of the project sponsor, further documents and studies, should the required documents be insufficient or not trustworthy to evaluate potential risks of the document. The arranger might also require a Project Finance Rating through an independent rating agency.

Syndication

Once the arranger is satisfied, the arranger is responsible for contacting the widest possible number of

banks or investors interested in participating in the project finance deal and be the coordinator representing all lenders. For deals with an international scope, it is common to create a team of arrangers with specific roles.

During this syndication process, prospective bank lenders will examine the deal in detail to assess whether to participate or not. The resulting financial institution's syndicate can include:

1) Commercial banks or banks that provide commercial debt facilities

   a. Banks mainly lend to greenfield projects and will demand independent due diligence to stress test the project's economic viability.

   b. Ideally, a bank from the host country (at least banks having a local representative office) will be participating in the financing.

2) Project bonds/capital markets

   a. Raising capital through public capital markets is less common for emerging markets because of their lower credit ratings. The use of credit enhancements would be necessary for the issuance of project bonds/notes through for instance guarantees provided by the issuers, parents company of issuers or offtakers.

   b. Bonds can only be raised once the project has reached a significant size as the transaction costs for raising bonds are high.

3) Infrastructure funds (debt and equity)

   a. There are two types of infrastructure funds:

      i. Greenfield funds: invest in infrastructure from the beginning of development together with other industrial sponsors. They bear all the risks of the project including construction and technological risks, take high risk to satisfy their high appetite for high return. They might sell out the majority to industry investors at a specific time, either after financial close or after COD, the latter gives them higher return in exchange for their higher capital contribution and associated higher risk during the construction period.

      ii. Brownfield funds: Infrastructure funds that invest in brownfields are projects that have already passed the construction phase where the risk that is being taken is linked to the operation of the project. Brownfields can buy out the equity stake of other sponsors once construction is complete or recapitalise the SPV. Can also be involved in the take-private process through buying out the government's equity stake.

4) Multilateral development bank lending

   a. For projects in developing countries, it can often be advantageous to include development financial institutions (DFIs), such as multilateral development banks (MDBs) including the Asian Development Bank, the Asian Infrastructure and Investment Bank, or the European Bank for Reconstruction and Development (EBRD), as well as bilateral development banks.

   b. The DFIs can provide two benefits for the project's financing and bankability:

      i. Lower financing costs through concessional loans

      ii. Provide quality assurance for other investors due to the DFI's strong project finance experience

5) Export credit agencies

   a. Play an important role in improving bankability and contribute to project financing, particularly in emerging economies.

   b. Role is to assist exporters from their domestic market (e.g. the German export credit agency KfW would support German exports that is the similar model as Sinosure's) through subsidising either the exporter directly or the importer through buyer credits.

Besides the arranger of the loan, the syndicate also requires banks to take responsibility for other roles, including:

1. Facility agent

   a. Administers the loan on behalf of the syndicate and

   b. Takes on a more administrative (not necessarily technical) role in the syndicate

2. Insurance bank

   a. Negotiates with the project insurances on behalf of the lenders.

Transitional or bridge financing

At the start of construction, financing may not always be secured immediately so construction is often funded, e.g. through:

1) Early and/or additional equity committed by the project sponsors.

2) Subordinated loans provided by sponsors to the project company temporarily. Loans will be reimbursed upon the activation of the project financing facility or repaid after senior facility use the project's cash flows from operation.

3) Temporary loans such as bridge financing to the project company by the financing arrangers. This financing is usually backed by guarantees and collateral from the sponsors.

   i. Project guarantee facilities

   ii. Private insurers

   iii. Green finance

An important consideration in the financing phase is the dividend distribution: Project sponsors have an incentive to extract profits at an early stage of the project, while project lenders will prefer to have the project establish and loans being repaid (at least to some extent). It is thus "unusual for the project lender to permit the payment of dividends (or the payment of interest on subordinated loans) prior to the date of the first repayment of the project loan"[52]. And there are also restrictions in facility agreements setting out the relevant ratio for the dividend distributions.

52 Dentons, "A Guide to Project Finance."

Documentation

The project finance documentation serves the distribution and apportionment of project risks among the parties involved in financing the project. The project finance documentation needs to fit the local requirements of the host countries, while also ensuring to represent and ensure the interests of the involved parties.

The documentation has four main elements (but can include more):

1) Shareholder/sponsor documents: these documents will also include the repayment terms and vary from project to project. Typically, the agreement will require all project cash flow to be received by the project account maintained by the facility agent or a trustee. This allows the lenders to ensure senior loan service payments before any shareholder dividends.

2) Project documents including:

a. Concession agreements: Particularly when the project should be build up by investors contribution (especially, fund) and be operated and maintained by the investor for a long period, the concession agreements are key elements of the project finance documents. They provide the SPV the right to e.g. explore, exploit, develop, operate or other relevant concessions to the project, and reflect some of key expectation from investors, including tax regime and legal system's stabilisation, necessary support in acquiring and maintaining key licenses, termination payments from hosting governments and its guarantee. These concession agreements are usually provided by the local governments or regulators and also include the environmental impact or pollution licenses.

b. Construction agreements that determine the services, price and payment terms with the construction company/companies/EPC. Often project lenders prefer a turnkey contract, with a single "general" contractor over multiple contracts with construction and service companies, fixed price and predetermined schedule are also appreciated by the lenders. A turnkey contractor takes responsibility of the on-time completion of the project with agreed performance standards. A project sponsor can take the responsibility of this turnkey contractor. For any turnkey contractor, lenders need to be satisfied with the technical capacity and resources. Lenders also prefer a clear pricing and payment structure with the contractor to avoid any unforeseen costs and would like to maximize the contractors' liability for breaches of the contract.

c. Operation and maintenance agreements that determine who will be the operator of the project once operational and how the operator is required to perform. The lenders would like to see an experienced operator with a proven track record or operating and maintaining similar projects. In the case of the BOT operating model, the main sponsor or the SPV is the operator, but more often a specialized third party can facilitate operation and maintenance. The lender will want to see that the agreement ensures that the operator can operate the project in a manner to maximize revenue-earning capacity within the relevant budget. Typical operating and maintenance agreements choose either a fixed price structure (where the operator bears the risk for cost-overruns and benefit from cost savings), cost-plus-structure (where the SPV

pays the operator the full cost plus an agreed fixed fee as profit for the operator) and incentive/penalty structure based on agreed performance targets. The latter is the preferred mode for lenders due to the reduction of risks, but it requires high project knowledge for both operator and lender to set relevant targets.

d. Supply agreements (e.g., for fuel) that determine the price of operation of the project. Lenders will prefer the SPV to have secured reliable and secure sources of supplies with stable prices over the long-term (e.g., through a take-or-pay contract). In some cases, the offtaker takes this responsibility as the fuel supplier is its related party, e.g., controlled by offtaker or under common control of the same group company.

e. Sales/offtake agreements that determine the ability of the SPV to sell its services or products to the relevant buyers. Lenders would prefer guaranteed cash flows, e.g., through power purchasing agreements with fixed prices and volumes in the electricity sector. Other contract types are "pass-through agreements" that calculates the price based on the cost of operating, a share of the fixed costs and the purchase of fuels, as well as financial costs and "take-or-pay agreements" that requires the buyer to pay for the services no matter whether required or not. Although "take and pay" model is wider used in some markets, financing institutions are still not willing to accept this model as the revenue is not clear prior to financing close, especially for the renewable energy in some of developing countries.

3) Lending documents with banks/export credit agencies etc, specifying the terms of the loan, including the interest rates, payment modalities, securities and possibly the handling of force majeure.

4) Security documents, which depend particularly on the risks of the project and serve the lender to secure the loan repayment. Since lenders have little recourse to more than the project's assets in project financing, lenders are focusing on the cash flow generated by the project as well as the project's assets (e.g., so that no others would be able to take over the project's assets in case of default).

Particularly in emerging economies and in new technology projects, lenders aim to reduce their country, political and technological risks by trying to obtain government guarantees. These guarantees can encompass:

· Protection against the change of laws that would have material adverse effects on the project

· Availability of foreign exchange

· Protection against expropriation without compensation

· Assurance of service contract payments (particularly for public services)

Many host governments would object to such arrangements, particularly those that hope to pass financing and implementation responsibility to a project sponsor.

Financing instruments

The choice of financing instruments depends on the structure of the project, the perceived risks and expected returns and the availability of the relevant financing instruments in the respective markets. For

example, whether project sponsors choose bank loans, debt private placement, or project bonds depends on factors including the size of the transaction, the complexity, the local conditions of banks and capital markets, the current cost of the financing, the experiences and reputation of the project sponsor, the state of the project preparation, the local legal environment, and many other issues.

For detailed information on instruments of project financing, please refer to Section 4.2.

Loan agreement

The loan agreement specifies important points between the parties of the SPV and is the key financing document. Important issues that are often covered in the loan agreement are[53]:

1) Warranties, covenants, and events of default that allow the financial institutions syndicate to control matters should defaults occur but should not stifle smooth operations in case of "insignificant hiccups." It is important to note the difference that events of default are limited to the SPV, while warranties and covenants can allow the financial institutions to claim damage from the parent companies of the SPV. Furthermore, the difference between these lies in the circumstances of the "hiccup": if the fault is in the power of the project company, the lenders will expect protection through warranties and covenants, while in other cases it will be from the project company.

2) Project bank accounts for the project lenders to control all the project cash flows. The bank accounts are often opened with either the facility agent or another bank. Usually, at least two accounts are necessary: (1) the disbursement account to be used for drawdowns, where either the SPV withdraws money or – in case of large payments – these payments are made directly to the supplier (2) the proceeds account to which all payments to the project are credited. The SPV can make withdrawals to satisfy operating costs, taxes etc. Control over the bank accounts is also relevant to ensure the payments waterfall:

   a. Paying any sums due to the agent, the account and technical bank
   b. Transfer to the operating account to meet operating costs due
   c. Payment of the costs, fees and expenses of the financing parties yet paid in the first step
   d. Payment of interests due
   e. Payment of principal due
   f. Payment of debt service reserve account
   g. Transfer to the maintenance reserve account
   h. Transfer to the dividends account

3) Appointment of experts: the lenders usually hire experts, particularly to evaluate technical, social, legal, environmental and other relevant issues of the project. While these experts are hired and thus answerable to the lenders, they are paid for by the project company.

4) Information and access, where lenders require access to the project site and its facilities (e.g. to monitor compliance). Information required by the lenders include, for example, annual accounts and

53 Dentons.

financial statements, periodic progress reports during the construction phase, relevant certificates received, copies of communications from relevant authorities, reports from experts, copies of insurance documentation, etc.

5) Cover ratios to evaluate the performance of the project, particularly annual debt service cover ratio, loan life cover ratio and project life cover ratio, possibly with sensitivity analysis to evaluate impacts of e.g. change in interest rates, operating costs etc.

6) Governing law and jurisdiction

7) Completion issues, as this often marks the end of the development and start of the revenue-generating phase. The loan agreement will thus specify, e.g. the thresholds for physical completion, passing of required performance criteria and reliable operation. Particular emphasis is the manner in which the completion test is treated as satisfying.

A.5 Construction and operation

When the project becomes operational, the financing from the project financing facility is able to be disbursed. The beginning of the project requires close monitoring and here independent engineers can monitor and certify the works to certify to lenders that the venture is going as planned. The independent engineer thus acts as the project manager on behalf of its lenders. The frequent monitoring by lenders is to keep the risk factors under control and limit the impact on the project's operating cash flow. This technical monitoring is the basis for lenders to check the respect.

To safeguard environmental and social standards, the EPFIs require clients to develop and/or maintain an Environmental and Social Management System (ESMS), particularly for all category A and B projects. This ESMS is to ensure that the project applies the environmental and social safeguards agreed to in the ESIA to reduce, mitigate, and compensate for environmental and social risks and impacts (Principle 4).

As part of the ESMS, EPFI will require the client to establish effective grievance mechanisms. The grievance mechanism will allow the client to receive and facilitate the resolution of concerns and grievances about the project's environmental and social performance brought forward by affected communities and workers (Principle 6).

For the EPFIs to ensure proper implementation of the EMSM and stakeholder engagement process, they will invite an independent environmental and social consultant to carry out independent reviews of the implementation of the agreed processes with the project owner (Principle 7).

A.6 Reporting

After the project closes and during project implementation (both construction and operation), financial institutions expect to receive both regular and temporary reports on the subsequent performance of the project. Different financial institutions have different requirements. Equator Principle financial institutions are encouraged to require "independent monitoring and reporting by an independent environmental and social consultant", particularly for high-risk (Category A) and medium-high risk (Category B) projects. To

satisfy its reporting requirements, the EPFI "may decide between requiring an Independent Environmental and Social Consultant or relying on internal monitoring by the EPFI" for project-related corporate loans to national, regional, or local governments, governmental ministries, and agencies.

Furthermore, EPFIs (Principles 9 and 10)

- Require their clients to provide – at a minimum – a summary of the ESIA online
- Require their clients to report publicly on an annual basis GHG emission level (combined Scope 1 and Scope 2 emissions) for projects with more than 100,000 tonnes of CO2 equivalent annually
- Encourage their clients to share biodiversity data with the Global Biodiversity Information Facility and relevant national and global data repositories

Further to the regular reporting, many financial institutions, as well as for example the European Financial Service Round Table (EFR) standard requires event-based disclosures, such as default, breach of contractual obligations, significant deviation from projected costs and cash flows, etc.

Appendix B:Current Chinese Overseas Infrastructure Financing Practices

This chapter provides a summary of Chinese practices of overseas infrastructure financing in four major sectors:

1) Transport, such as road and bridge, railway (including metro), airport and port;

2) Power and electricity, such as fossil fuel power generation, hydropower, renewable energy, and power transmission;

3) Water, such as sewage treatment and sea water desalination;

4) Information and Communication Technologies (ICT)

While Chinese companies, especially state-owned enterprises (SOEs) take an active part in the investment, construction, and operation of all these sectors, others (esp. private companies) have acted mainly as equipment suppliers targeted at mature markets. For the purpose of this study, this chapter focuses mainly on the cases where Chinese companies participate in greenfield infrastructure projects in emerging markets as project sponsors.

Depending on industry characteristics, each infrastructure sector has its own specificities in terms of project preparation, financing, and operations. This chapter also identifies such differences across sectors.

B.1 Project initiation

The inception of an overseas infrastructure project relevant for Chinese project sponsors can take place via various forms. These include, for example

- local governments that issue a public call for tenders;
- a government-to-government Memorandum of Understanding (MOU) between China and the host country that includes specific projects (but not all of them have access to the soft loans from China Exim Bank);
- project development through a project facilitation fund (e.g., former COIDIC);
- or through a Chinese project sponsor interested in pursuing a project.

With most overseas infrastructure projects taking place in emerging economies, the initiation of projects is often also dependent on the availability of financing in different regions.

B.2 Pre-feasibility

During the pre-feasibility stage, Chinese project sponsors lead an initial assessment of the project, particularly in regard to regulatory screening, financial, technical and market pre-feasibility and selection of potential partners. The pre-feasibility study allows Chinese project sponsors to evaluate the project's

potential before they decide to pursue a more costly in-depth feasibility study.

Regulatory screening

To start with, Chinese project sponsors, especially SOEs, evaluate if the project of interest satisfies the requirements delineated in the policies and regulations of relevant Chinese government authorities. For example, the State Council published the "Guidance on Further Guiding and Regulating the Direction of Outbound Investment" (Guo Ban Fa [2017] No. 74)[54], which categorizes investments into "prohibited", "restricted", and "encouraged" (e.g., "overseas infrastructure projects that facilitate the communications and connections that are beneficial to the 'Belt and Road' initiative") (see Table 12). The National Development and Reform Commission (NDRC) also provided the corresponding Catalogue of Sensitive Industries for Outbound Investment[55]. Depending on the destination, industry and value of the projects, registration to or approvals from national or local development and reform commission are needed.[56]

Table 12: The classification of Chinese overseas investment: prohibited, restricted, and encouraged

Category	Industries
Prohibited	· Outbound investment involving the export of core technologies and products of the military industry without state approval; · Outbound investment using technologies, processes, and products the export of which is prohibited; · Outbound investment in the gambling and pornography industries; · Outbound investment prohibited by the provisions of international treaties to which China is a signatory; · Other outbound investment that endangers or may endanger national interests and security
Restricted	· Investments in countries and regions that have no diplomatic relations with China, are currently at war or in chaos, or are restricted by Chinese treaties; · Real estate, hotels, cinemas, the entertainment sector, and sports clubs; · Equity investment funds or investment platforms which do not have an underlying operating business; · Outdated or obsolete manufacturing equipment or technologies; · Investments which fail to meet environmental, energy efficiency, or safety standards in the target's jurisdiction
Encouraged	· Overseas infrastructure projects that facilitate the communications and connections that are beneficial to the "Belt and Road" initiative; · Investments that facilitate the deployment of China's industrial capacity and export of China's high-quality equipment and technology standards · High-tech businesses, advanced manufacturing enterprises, and overseas research and development (R&D) centres · Oil, gas, mineral, and energy resource projects which are based on a careful assessment of economic benefits and national interests · Industries such as agriculture, forestry, animal husbandry, side-line production, and fishery · Investments in service sectors such as commerce, culture, and logistics, as well as investments which help qualified Chinese financial institutions to establish offshore branches and service networks

Source: compiled from Guo Ban Fa, "Guidance on Further Guiding and Regulating the Direction of Outbound Investment (No. 74)," 2017.

Overseas investment led by "central enterprises"[57] is restricted to projects that fall under their "principal business."[58] On top of that, the State-Owned Assets Supervision and Administration Commission (SASAC) issues a negative list that guides their outbound investment decisions. It is prohibited for them to invest in projects of the "prohibited" category of the negative list; additional review and approval processes are needed for projects under the "special regulation" category. Relevant SASAC documents include "Measures for the Supervision and Administration of Overseas Investments by Central Enterprises" (SASAC, [2017] No. 35)[59] and the "Notice by the State-owned Assets Supervision and Administration Commission of the State Council of Matters Concerning Central Enterprises Strengthening the Management of Non-controlling Shares" (SASAC, [2019] No. 126).[60] The approval procedures through SASAC and all the other government bodies are discussed in the "feasibility" section.

Market pre-feasibility

Chinese companies select projects based on the risk profile of the host countries. They will factor in the political stability, economic forecast, as well as the size of the relevant market. They generally avoid over-concentration of investments in multiple infrastructure projects in one country or region.[61] It was also mentioned during the interviews that too many of the same type of transport infrastructure projects in close proximity are less desired.

Financial pre-feasibility

During the financial pre-feasibility, project sponsors evaluate whether the project will be capable of generating stable cash-flow. Equally important is a first evaluation whether the company has the matching risk appetite considering the project's financing plan and their own balance-sheet (e.g., depending on the

54 Guo Ban Fa, "Guidance on Further Guiding and Regulating the Direction of Outbound Investment (No. 74)," 2017.
55 国家发展改革委,"境外投资敏感行业目录(2018 年版)," 2018, https://www.ndrc.gov.cn/fggz/lywzjw/zcfg/201802/W020190909440830301471.pdf.
56 国家发展改革委,"《企业境外投资管理办法》," December 26, 2017, http://www.mofcom.gov.cn/article/b/g/201803/20180302719303.shtml.
57 "Central government-owned enterprises" are defined as the state-funded enterprises for which the State-Owned Assets Supervision and Administration Commission (SASAC) performs the duties of a capital contributor on behalf of the State Council. See http://www.sasac.gov.cn/n2588035/n2641579/n2641645/index.html (Mandarin) for the full list of central enterprises, updated on June 5, 2020
58 The principal business of each central enterprise is subject to adjustments. See http://www.sasac.gov.cn/n2588035/n2641579/n2641665/index.html (Mandarin) for updates.
59 SASAC, "Measures for the Supervision and Administration of Overseas Investments by Central Enterprises (No. 35)," 2017.
60 SASAC, "Notice by the State-Owned Assets Supervision and Administration Commission of the State Council of Matters Concerning Central Enterprises Strengthening the Management of Non-Controlling Shares (No. 126)," 2019.
61 国家发展和改革委员会市场与价格研究所,"中国承包工程企业海外工程投资建设的业务模式及经营现状," 2020.

debt-to-equity ratio).

Technical pre-feasibility

To conduct the technical pre-feasibility study, Chinese project sponsors or their parent companies send or already have experts to support the in-country teams. They will assign engineering experts from the in-country teams or send them directly abroad for an initial on-site technical assessment, which generally focuses on local environment, construction capacity, etc. Specific to renewable energy projects, for example, the engineering experts assess the wind resource or estimate the water flow, grid capacity is another key issue as most of developing countries need to upgrade their grid to accommodate growing number of renewable energy plant. Some of prudent sponsors may engage a local firm to help them to prepare an interconnection study for a power project.

Partners and project governance

Chinese project sponsors also consider whether the industry sector of the project is equipped with sophisticated market operations and regulations so that they can better understand the operational and completion risks[62], e.g. by evaluating possible partners. Investment decisions involving industry sectors that are deemed as highly-risky from the operational perspective will be re-assessed. At this stage, the project sponsors will also start engaging with the host government potentially through advisory firms and/or local partners to obtain licenses and permits.

In general, with pre-feasibility studies, Chinese project sponsors get a first sense whether the project is technically and financially feasible, as well as gauge the costs and benefits, while going through the company's internal review and decision-making process. Despite the regulatory screening, most of the assessments and action steps on financial, technical, and market pre-feasibility are similar to the international practices. The main output for this stage is the pre-feasibility study, also known as the "project proposal."

B.3 Feasibility

After the pre-feasibility phase and internal review processes, Chinese project sponsors initiate the feasibility study covering technical, financial, legal and other aspects. On one side, Chinese banks usually require that feasibility studies done by 3rd-party consultants, and are becoming stricter with feasibility studies. On the other, Chinese project sponsors, especially those with decades of experience in their expertise sectors, often conduct the feasibility study with their own financial and human resources. However, over the last years, an increasing number of Chinese companies have been leveraging external technical, legal, and financial advisory resources[63], particularly in new businesses and/or new markets.

In some cases, the host countries have specific requirements over the qualifications and experience of the consultants behind the feasibility studies.

Financial feasibility

The financial feasibility study generally covers the estimates on (1) capital costs in the construction phase, which include costs associated with fixed assets, intangible assets, other assets, and budget reserves; (2) investment liquidity; (3) operating cost, which is less relevant for the financing plan; (4) business and

62 Ibid.
63 Ibid.

income taxes according to local government's laws; (5) salvage value.[64] Each company may subscribe to a slightly different financial feasibility template. Notably, the financial institutions will run their own project financing models based on the feasibility study and other documents submitted by the sponsors.

Technical feasibility

Technical feasibility study usually includes on-site survey with a focus on geological investigation, host country's social-economic environment, project owners' operations and management[65], hospitals and other relevant medical resources necessary for future Environment, Health, and Safety (EHS) management, along with local government's capabilities in various domains.[66]

Legal Due Diligence & project documents

During the legal due diligence (DD), the sponsors start drafting legal due diligence and preparing documents for the initial engagement with the potential financiers. The list of documents includes background information of the project nature and characteristics of the sponsors (e.g., financial statements, market coverage, demonstrated experience in similar projects), regulatory framework, project schedules, feasibility studies, taxation, insurance, power purchase agreement (PPA) and other contracts, licenses, permits, whenever applicable.[67]

The legal due diligence report and all the other relevant project documents (contracts, permits) are prepared in a similar manner as international practices described above.

Environmental and Social Impact Assessment

The common approach taken by Chinese sponsors of overseas projects on the environmental and social front is based on the host country's standards. From the top-down, the "Host Country Standard" was widely referenced in, for example, MOFCOM's "Notice on Furthering Environmental Protection in Foreign Investment and Cooperation" published in 2015 and MEE's "Guidance on Promoting Green Belt and Road" issued in 2017.

However, the guidelines have been strengthened in the latest "Green Development Guidelines for Overseas Investment and Cooperation" issued by MOFCOM and MEE on July 16th 2021. The new guidelines explicitly encouraged Chinese companies to follow "international green rules and standards." It also clearly outlines that "If the host country lacks relevant laws and regulations, or the environmental standards are deemed lax and insufficient, Chinese enterprises are encouraged to adhere to international organisations/multilateral agencies' common standards or Chinese standards for their overseas investments and cooperation."

In addition to the government documents, Chinese financial institutions involved in overseas infrastructure financing, including Export-Import Bank of China (China Exim Bank), Industrial and Commercial Bank of China (ICBC), and Silk Road Fund, have included guidance with a varying degree of specifications to promote "green" lending (See Table 13).

64 国家发展和改革委员会市场与价格研究所，"中国承包工程企业海外工程投资建设的业务模式及经营现状，" 2020.
65 exclusive to those operating models under which EPCs do not own or operate the project
66 "中国承包工程企业海外工程投资建设的业务模式及经营现状".
67 KPMG, "'一带一路'项目成功融资关键环节，" 2018, https://assets.kpmg/content/dam/kpmg/cn/pdf/zh/2018/10/key-link-financing-belt-and-road.pdf.

Table 13: Best practices of selected Chinese financial institutions on "green" lending

Financial Institution	Strategies
China Exim Bank	China Exim Bank has set up a special department at its head office to provide low carbon transition support for foreign governments and international financial institutions. "White Paper on Green Finance" in 2016 states that "If the environmental protection mechanism in the project location is not sound and there is a lack of appropriate ESIA policies and standards, the Bank will refer to Chinese standards or international practices for the review. In practice, the assessment and review department strictly implement the above requirements, making obtaining approval from the environmental protection department of the project location one of the prerequisites and elements for submission for review, and treating environmental risks as an integral part of the risk analysis."
ICBC	In 2018, ICBC issued the Risk Prompt on Financing Involved in Environmental Protection Supervision and Policy Adjustment, requiring all branches to raise environmental protection standards for customers from key industries and regions, strictly implement the "one-vote veto system for environmental protection," observe the bottom line of environmental and social risk compliance, and strengthen risk management and control over high-risk customers.
Silk Road Fund	The Silk Road Fund will "strongly support projects that build China's production capacity in areas where the economy has a comparative advantage and promote adjustment of the domestic industrial structure"

Source: Compiled from official websites of the listed financial institutions and China Development Bank & United Nations Development Programme co-authored report[68]

E(S)IAs are still often seen as a relevant, but rather box-ticking exercise for most Chinese companies and financial institutions. However, as Box 6 shows, Chinese financial institutions have started to utilise environmental reasons to oppose financing polluting projects.

To summarise, one of the prerequisites for Chinese project sponsors to obtain financing is to conduct the E(S)IA based on local laws and regulations. The absence of a proper E(S)IA license or permit fails the environmental and social policies of most Chinese and international financiers, for example, ICBC's "one-vote veto system for environmental protection." On one hand, Chinese policymakers have started to guide Chinese companies to comply with international green standards. On the other hand, with the increasing awareness of environmental and social risks, Chinese financial institutions have also been tightening their lending requirements on this front.

68 Ibid.

Box 9: Case study: Adani's Carmichael coal mine project in Australia (source: Queensland Government, Reuters[69])

The Carmichael coal project in the Galilee Basin in Central Queensland, Australia consists of six open-cut pits and five underground mines with a yield of 60 million tonnes per annum and a 189-killiometre railway line. As one of the largest and arguably most controversial mining projects in the world, it raised serious environmental, social, and legal concerns pertaining to carbon emissions, water resource, threatened species, World Heritage sites, and Indigenous people's land rights. After nearly a decade, the Environmental Impact Statement (EIS) of this project was approved with conditions by the state and federal governments in Australia despite ongoing controversies.

The total investment required by the Indian owned project sponsor Adani was estimated to be around AUD $16.5 billion (USD 12.5 billion, 2017).

As one of the possible project financing providers, Adani approached ICBC and China Construction Bank (CCB) in 2017. However, both banks declined to sponsor this project, issuing separate statements. ICBC's statement on its Australian website reads: "ICBC has not been, and does not intend to be, engaged in arranging financing for this project… (and) ICBC attaches great importance to its social responsibilities and keenly promotes 'green financing' ."

CCB external spokesperson commented the same.

Engagement with Chinese regulatory bodies

For outbound investment projects, multiple regulatory bodies are expected to be fully engaged for necessary record-keeping and/or approval management (See Figure 24). The roles of each authority, applicability, relevant laws and regulations, together with procedures are described in text below and summarised in Table 14.

State-Owned Assets Supervision and Administration Commission of the State Council (SASAC)

The State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) in China mainly guides the investment strategies and activities of central enterprises based on regulations, including the "Measures for Supervision and Management of Overseas Investment by Central Enterprises" (SASAC, [2017] No. 35). Accordingly, overseas investment projects under the "special regulation category" of the negative list and those outside of the "primary business" have to be approved by SASAC first before going through further regulatory procedures. Required documents include:

- Initiation report[70]
- Relevant decision-making documents for the enterprise
- Feasibility report (due diligence)
- Financing plans
- Risk control and management report
- Others upon request

Additionally, central enterprises are required to submit the Annual Overseas Investment as part of their annual investment plan.

69 "UPDATE 1-China's Top Two Banks Won't Lend to Adani's Australian Coal Mine," *Reuters*, December 4, 2017, sec. Financials, https://www.reuters.com/article/australia-adani-ent-idUKL3N1O41LE.

70 For those projects outside of the central enterprises' "primary business", may also have to include the Application for Approval on Overseas Investment outside of "Primary Business".

The National Development and Reform Commission (NDRC)

The National Development and Reform Commission of the People's Republic of China (NDRC) is responsible for approving outbound investment projects. According to Measures for the Administration of Overseas Investment of Enterprises (NDRC, [2017] No. 11), projects involving sensitive countries/regions or countries have to be approved while the others have to be filed to NDRC, or in some cases, recorded by the provincial NRCs, depending on the investment entity (centrally- or locally-managed) and the amount (more or less than US$300 million). Sensitive countries and regions include:

· Any countries or regions with no Chinese diplomatic relations;

· War-torn or civil unrest countries or regions;

· Countries or regions whose foreign investment is limited by any international treaties or agreements concluded by China;

· Others.

Sensitive industries include:

· Development and production of weaponry and equipment

· Development and utilisation of cross-border water resources

· News media

· "Restricted category" under "Guidance on Further Guiding and Regulating the Direction of Outbound Investment" (Guo Ban Fa [2017] No. 74),

For approval procedure, required documents include:

· Investor information

· Investment project information (e.g., project name, location of investment, context and scale, investment amount from Chinese investors)

· Impact analysis report on national security and interest

· Investor's statement of investment authenticity

The Ministry of Commerce (MOFCOM)

The Ministry of Commerce of the People's Republic of China (MOFCOM) manages overseas investment from the angle of the investment entity. Under "Measures for the Administration of Overseas Investment" (MOFCOM [2014], No. 3), sensitive outbound investment projects need to be approved by MOFCOM. Similar to practices with other authorities, central enterprises report to the MOFCOM; local enterprises report to the provincial commercial authorities.

Required documents include:

· Application document, including information of the investor(s), name of the overseas entity, equity structure, financing, business scope, period of business operation source of investment funds and investment specifications

· Outbound investment application form

· Related contracts and agreements

· Approval documents for exports from relevant departments involving exports of restricted products or technology restricted by China

· Copy of Business License

Regulatory procedures

The entire process involves Ministry of Foreign Affairs (MOFA), Ministry of Finance (MOF) and State Administration of Foreign Exchange (SAFE) pertaining to different aspects, as well. These ministries will be included in the early phase, for example MOFA, to gain support, while these regulators and ministries have limited approval power for BRI projects.

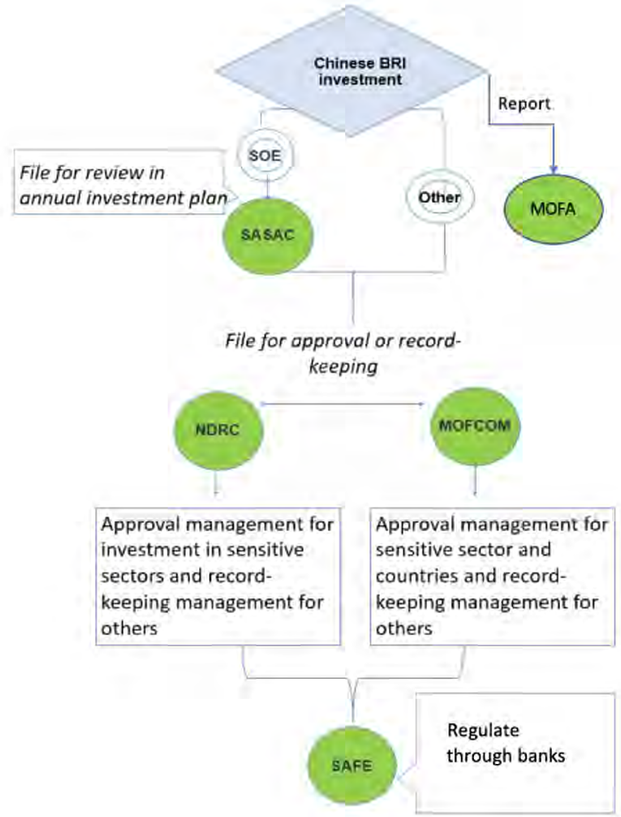


Figure 24 Chinese regulatory procedures for overseas investment and financing

Notes: SOE = here refers to centrally administered state-owned enterprise; SASAC = Supervision and Administration Commission of the State Council; NDRC = National Development and Reform Commission; MOFCOM = Ministry of Commerce; SAFE = State Administration of Foreign Exchange.

Source: adapted from Green Development Guidance for BRI Project

Table 14: Relevant Chinese government bodies and regulations

Chinese government department	Applicability	Procedures	Laws & Regulations
State-owned Assets Supervision and Administration Commission of the State Council (SASAC)	"Central enterprises": state-funded enterprises for which the SASAC performs the duties of a capital contributor on behalf of the State Council	Investment projects within the annual plan shall proceed via administrative filing; projects outside the annual plan or outside the enterprise's "principal business" or within the negative list's "special supervision" category shall proceed via SASAC approval; prohibited projects are forbidden.	Measures for the Supervision and Administration of Overseas Investments by Central Enterprises (Order No. 35, 2017) "Notice by the State-owned Assets Supervision and Administration Commission of the State Council of Matters Concerning Central Enterprises Strengthening the Management of Non-controlling Shares" (No. 126)
National Development and Reform Commission (NDRC) & provincial NRCs	Overseas investment involving sensitive countries/ regions and sectors for approval; others for record-keeping	Investments involving sensitive countries/ regions/ sectors of both State-owned and private enterprises are subject to NDRC approval; NDRC is responsible for filing if the investment is a centrally managed enterprise; and if the investment subject is a local enterprise and the Chinese investment is US$300 million or more; the investment entity will be recorded by the development and reform department of the provincial NRCs where the entity is registered if the investment subject is a local enterprise, and if the amount of Chinese investment is less than US$300 million.	Measures for the Administration of Overseas Investment of Enterprises (Order No. 11, 2017)
Ministry of Commerce (MOFCOM)	Overseas investment involving sensitive countries/ regions and sectors for approval; others for record-keeping	Investments involving sensitive countries/ regions/ sectors of both State-owned and private enterprises are subject to approval by MOFCOM; central enterprises report to the MOFCOM; local enterprises report to the provincial commercial authorities.	Measures for the Administration of Overseas Investment (Order No. 3, 2014)
Ministry of Finance (MOF)	For overseas investment, insured amount with Sinosure >= 0.3 US$ billion	Reviewed and administrated by and through Sinosure	/
State Administration of Foreign Exchange (SAFE)	Foreign exchange for overseas direct investment	Reviewed and administrated through the banks	Notice of the State Administration of Foreign Exchange on Further Simplifying and Improving Policies for the Foreign Exchange Administration of Direct Investment (Order No. 13, 2015)

Source: Compiled from official websites

Engagement with financial institutions

Early engagement with the financial institutions is instrumental to the success of the following financing stage and the project overall. Although on paper, banks are required to be included only much later, project sponsors are often negotiating bilaterally with multiple financial institutions in the feasibility stage.

To engage Chinese banks, sponsors submit preliminary information (e.g., investment plan, feasibility studies). Upon initial review, banks will issue a Letter of Intent on Financing and share the requirements. The project sponsors and financiers (in some cases, only agent banks) will be part of an ongoing conversation as more permits and contracts are secured until they reach an agreement on the financing term sheet (for more on ESIA requirements, refer to the above). Engagement with Sinosure also starts during the feasibility phase.

Besides Chinese banks, Chinese project sponsors also reach out to international financial institutions, despite international financial institutions (especially MDBs) being perceived as having stricter requirements and sometimes longer due diligence review processes.

Engagement with other project sponsors and shareholders

Project sponsors are companies or individuals that promote the project, bring together the various parties and obtain the necessary permits and consents necessary to get the project underway.[71] In most cases, sponsors should organise the project and properly make all the relevant parties make their own contribution and allocate risks among the parties. Based on this, sponsors are not necessarily the ones that make the most capital contribution or the ones who have the strongest local connection, but they are the ones that are recognised and agreed by all the parties to be the key members in the project without which the project might be paralysed. Shareholders of China's overseas infrastructure projects usually include 1) Chinese SOEs or private companies, 2) local partners, 3) host country governments (especially large-scale infrastructure projects) and 4) third-party equity investors.

Third-party equity investors make equity investments alongside project sponsors. But they look at the project purely in terms of a return on their investments, instead of participating in the project (e.g., providing services to the project or being involved in the construction or operating activities).[72] Examples include sovereign wealth funds such as China Investment Corporation, or policy-driven investment funds such as Silk Road Fund[73]. Typically, third-party equity investors will require some involvement at the board level to monitor their investment, some of them would require certain products to be used in the project.

B.4 Financing

The exact ways for financing overseas infrastructure projects vary depending largely on the investment regions. For example, in the Middle East and Latin America, where regulations and capital markets are relatively established, Chinese project sponsors have experience making equity investments with bridge loans before construction or issue project bonds in exchange for part of their equity after construction completion. In comparison, Chinese project sponsors undertaking infrastructure projects in African

71 "A Guide To Project Finance."
72 "A Guide To Project Finance."
73 Policy-driven investment fund have their own mandate to finish some of job designated by the founding entity of the fund. Different policy-driven investment funds have different mandate, however, some of them could be duplicated.

countries usually follow the traditional debt and equity financing models.

In general, in the financing phase for Chinese overseas infrastructure projects in emerging markets (especially Africa and developing Asia), financing sources and structure are agreed and formalised through loan agreements.

Equity financing

Equity financing is often obtained in the following ways:

- Host governments, e.g., ministries of energy or transportation;
- Local companies, e.g., state-owned electricity provider;
- Chinese project sponsors (e.g., self-owned capital or on-balance-sheet loans from banks);
- Equity investors, such as Silk Road Fund, China Africa Development Fund, China Co-financing Fund for Latin America, and the Caribbean.

Debt financing

Debt financing is obtained mainly in the form of preferential loans, syndicated commercial loans, loans provided by DFIs, shareholder loans, mezzanine debt etc. Chinese companies also issue bonds.

Preferential loans

China Exim Bank provides two preferential facilities, namely, government concessional loan and preferential export buyers' credit. These two facilities are an arrangement made by the Chinese government to support other developing countries with concessional funding. China Exim Bank is the only bank to implement such facilities.

- Government concessional loans require established inter-governmental agreements between China and the host country. It has fixed interest rate of 2% to 3% for 15-20 years, with 5-7 years of grace period.
- Preferential export buyer's credit refers to loans that are provided by China Exim Bank and lent directly to the host country government under the condition that sovereign guarantee and export credit insurance are in place. The loans are disbursed in USD and require at least 15% of equity financing from the borrower.

Compared with commercial loans, preferential loans take longer for approval and usually applies to projects with a value of USD $1bn or higher. They also have requirements for Chinese content. Projects that want to apply for preferential facilities need to:

- First, get approval from the local Chinese embassy;
- Second, obtain letters of interest from both Sinosure and China Exim Bank;
- Finally, submit application documents to China Exim Bank, including application form, business contract, feasibility study, EIA report and bidding document.

Syndicated commercial loan

A syndicated loan is a form of loan business in which two or more lenders jointly provide loans for one

or more borrowers on the same loan terms and with different duties and sign the same loan agreement.[74] An arranging bank establishes the syndicate, and an agent bank is in charge of the management (e.g., repayment of principal and interest). In a syndicate, banks join together to make decisions on the terms of loans and provide a unified contract.[75]

Table 15: Major providers of syndicated loans

Category	Examples
Chinese policy bank	China Exim Bank
Chinese DFI	China Development Bank (CDB)
Chinese commercial banks	the Bank of China (BoC), the China Construction Bank (CBC), the Industrial and Commercial Bank of China (ICBC), and the Agricultural Bank of China (ABC), and the Bank of Communications, China Merchants Bank and Ping An Bank
International/local commercial banks	BBVA, Standard Chartered, Crédit Agricole CIB, Societe Generale, Standard Bank

Table 15 summarised major providers of syndicated loan for Chinese overseas infrastructure projects. Beside policy-oriented lending, China Exim Bank and CDB also issue commercial loans together with Chinese and international commercial banks. For example, in the Addis Ababa – Djibouti Railway project, total cost of the project was USD 5.09 billion. The Governments of Ethiopia and Djibouti altogether financed 30% of the project and currently own the railway assets. The other 70% of project cost financed commercially from China Exim Bank, China Development Bank and ICBC.[76]

Box 10: Evaluation process of Chinese state-owned commercial banks for overseas projects

In cases where the bank syndicate is led by Chinese banks, the evaluation process generally includes two steps: 1) the assessments of Chinese content; 2) the evaluation of different levels of risks. As is illustrated in Figure 25, in debt financing led by Chinese banks, the first step is to assess the Chinese content in the business contract, meaning the share of money used to purchase Chinese technology, equipment, and services in the total value of the contract. Banks have different thresholds for Chinese content, but generally require a share of higher than 35% for overseas construction projects. In cases where Chinese banks participate but do not lead in the bank syndicate, the Chinese content assessment might not apply.

74 n.d., "Syndicated Loan," Bank of China, accessed March 30, 2021, https://www.boc.cn/EN/cbservice/cb2/cb22/200806/t20080627_1324062.html.

75 n.d.

76 Global Infrastructure Hub, "Addis Ababa – Djibouti Railway," November 30, 2020, https://www.gihub.org/resources/showcase-projects/addis-ababa-djibouti-railway/.

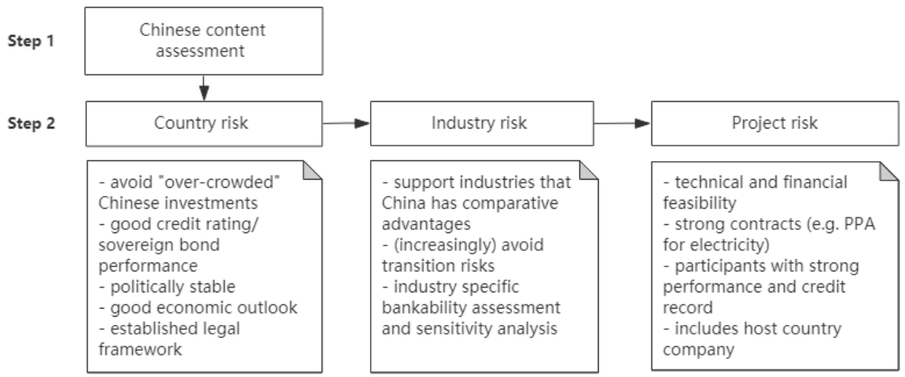


Figure 25 Evaluation process for Chinese-led overseas financing (source: interviewee)

The second step, financing institutions evaluate the risks of country, industry, and project on a case-by-case basis, to decide whether to finance and determine the cost of financing. On the country risk evaluation, besides evaluations of the sovereign credit, political stability, economic outlook, and legal framework of the host country, Chinese banks also take into consideration the already financed amount in a certain country to avoid increasing debt pressure on the sovereign government and the unnecessary competition between Chinese companies.

At the industry level, state-owned Chinese commercial banks, as part of their mission, prefer to support industries that Chinese companies have comparative advantages, such as hydropower. However, they have recently become increasingly interested in green energy projects as the cost of renewable energy-generated electricity has gone down sharply, and transition and physical risks increase for coal, gas, or hydropower dams. Furthermore, banks apply industry-specific bankability models and sensitivity analysis to test the resilience of the contract.

At the project level, detailed materials of each project will be evaluated, including technical and financial feasibility, PPA agreements (esp. for electricity project), the credibility of partners (e.g., those awarded with the EPC contract and O&M contract, and the suppliers). Ideally, Chinese banks prefer the involvement of local partners to facilitate the implementation of the project.

DFI loan

DFIs such as ADB, EBRD, AIIB and World Bank have also been a major source of financing for Chinese overseas investment. It is perceived by Chinese companies and financial institutions that MDBs possess leverage to deal with host governments easier and to effectively resolve and negotiate any project issues that may arise.

Financing with loans or other forms of support from DFIs are sometimes referred to as "blended finance," which is the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries.[77] Through the participation of development financial institutions (e.g., AIIB, ADB, EBRD, the Work Bank), blended finance could leverage private capital to enlarge the resources available to developing countries, especially for projects that support green and resilient

77 n.d., "Blended Finance," OECD, accessed March 30, 2021, https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/.

development.

Shareholder loan

A shareholder loan is a debt-like form of financing provided by shareholders, who contribute debt financing in proportion to their respective share in the equity part, or as otherwise agreed by shareholders, some of shareholders might be exempted from making such debt provision. A shareholder loan is usually recognised as subordinated to bank loans.[78]

Mezzanine debt

A mezzanine loan is a form of financing that blends debt and equity. Lenders provide subordinated loans (less senior than traditional loans), and they potentially receive equity interests as well.[79] Mezzanine debt is usually provided by investment funds (e.g. the Silk Road Fund), which have a relatively flexible role in overseas infrastructure financing. There are, however, some financial institutions that embrace higher returns and could provide such financing instrument while requiring shareholders provide additional guarantee in obtaining it. Investment funds might also, at the same time, lend as a member of the bank syndicate.

Credit enhancement measures

For investments in emerging markets, credit enhancement arrangements are required by Chinese financial institutions to further allocate and transfer risks. The most common requirements include guarantees and insurance.

Guarantees

Guarantees are often required by Chinese financial institutions as credit enhancing arrangements to minimise the risks posed to lenders in overseas infrastructure financing. Examples include sovereign guarantees, commercial guarantees, shareholder guarantees etc.

· Sovereign guarantees are provided by the host country government that an obligation will be satisfied if the primary obligor defaults.[80] It is required by Chinese financial institutions (usually in government-to-government projects) if they believe the contracting agency in the host country is not creditworthy enough to honour the contracts. In an energy project, for instance, the host country government provides a guarantee on the payment obligations of the state-owned utility under a power purchase agreement (PPA).[81]

· Commercial guarantees include two types:

- A corporate guarantee (公司担保) is provided by the parent or brother company of an investor within the same SOE group to cover the lenders' loss in cases when the investor fails to honour

78 张晓慧 and 王敏, "国际 PPP 项目融资中那些"名不一定符实"的概念," 国际工程与劳务, no. 12 (2018), http://www.cnki.com.cn/Article/CJFDTotal-GJGL201812015.htm.

79 Full Bio Follow Twitter Justin Pritchard et al., "What Is a Mezzanine Loan?," The Balance, accessed March 30, 2021, https://www.thebalance.com/what-is-a-mezzanine-loan-debt-and-equity-financing-4687180

80 "Renewable Energy Finance: Sovereign Guarantees," Renewable Energy Finance Brief 01 (Abu Dhabi: International Renewable Energy Agency, January 2020).

81 Jason Zhengrong Lu, Jenny Jing Chao, and James Robert Sheppard, "Government Guarantees for Mobilising Private Investment in Infrastructure," *Global Infrastructure Facility*, December 24, 2019, 80, https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2020-02/Government-Guarantees%20for%20Mobilising%20Private%20Investment%20in%20Infrastructure.pdf.

their obligations in the contracts. It can be provided by other Chinese SOEs. The guarantees used in the "onshore guarantees for offshore loans" financing model also fall in the category of corporate guarantee. Under the regulations SASAC, Chinese SOEs could provide corporate guarantees for associated companies within the same group without special approval from regulators and for other SOEs with SASAC approval. Listed companies need to report to the public any guarantee they provide, including the guarantor, guaranteed amount, and the project details.[82]

- A bank guarantee (银行担保) is provided by the bank to guarantee that the bank will fulfil any payment obligations in case of a default of the borrow, such as in on-loading cases (转贷项目).

· A shareholder guarantee is provided by the shareholders of the SPV to the lenders, e.g., collateralized guarantees of shareholder assets including shares. It provides an additional layer of security to the lenders and is now sometimes required together with parent company guarantee by Chinese banks.

· Others, including completion guarantee, are also used often.

The levels of parent company guarantee could also vary along the project lifecycle: during project construction, the higher level of guarantee is provided; when the construction is completed and the operation starts, the guarantor lowers the level of guarantee they are willing to offer.

Insurance

In most cases, banks require the project sponsors to purchase MLT export credit insurance or overseas investment insurance for the debt financing part. As the only official export credit insurance provider in China, Sinosure provides two types of insurance policies to cover the political and/or commercial risks for debt providers (as compared to the overseas investment insurance for equity providers described above), including "medium to long-term (MLT) export credit insurance" and "overseas investment insurance (for debt providers)". A comparison of both is shown in Table 16.

Table 16: A comparison between MLT export credit insurance and overseas investment insurance for debt providers by Sinosure (Source: Sinosure's official website and interviewees)

	MLT export credit insurance	Overseas investment insurance (debt)
Coverage	Up to 95% of political risks and 50% of commercial risks	Up to 95% of political risks
Premium	A lump-sum payment of about 7% of the insured amount, depending on the host country	About 1% of the insured amount annually, depending on the host country

When requested by lenders, Chinese SOEs need to purchase one of these two insurance policies with the lenders as the beneficiaries. Chinese SOEs prefer MLT export credit insurance for its more comprehensive

82 "中国电力建设股份有限公司关于子公司对外担保的公告" (中国电建 , April 24, 2020), https://q.stock.sohu.com/newpdf/202039434356.pdf.

coverage (i.e., also including commercial risks), but it has specific requirements in terms of the specificities of project and contract and thus is not available for every project.

Box 11: Sinosure's requirements and review process for issuing an insurance policy (source: interviewees)

Sinosure's requirements for issuing an insurance policy depend on the type of the individual project.
· In sovereign-type projects (主权类项目), a sovereign guarantee is needed, plus a sustainable government debt-to-GDP ratio (lower than the international recognised threshold).
· In commercial projects (商业类项目), the scale of net assets, debt asset ratio, net profits in the past three years of the project company or the guarantor are considered.
· In project-finance projects (项目融资项目), special attention is paid to the expected cash flow of the project itself. Cases are relatively few compared with the other two types of projects.

In projects where multilateral financial institutions lead the bank syndicate, Chinese SOEs have also worked with Multilateral Investment Guarantee Agency (MIGA) for their guarantee coverage for the project. MIGA has higher standards on environmental and social sustainability for the projects it underwrites.[83] In general, MIGA's presence in Chinese overseas infrastructure projects is limited, both because MIGA is perceived to has a higher price than Sinosure because it charges extra fees for site visits for environmental and social due diligence and because it only covers non-commercial risks. Another concern about MIGA is its prolonged reviewing procedure where some investors fail to get its policy due to constrained timing.

Financing structure

From the feasibility phase to the financial close, several financing structures are proposed by project sponsors and their financial advisors and discussed and agreed on by project parties. Based on the recourse-related features of the financing structures commonly adopted in Chinese overseas infrastructure projects, they could be classified into corporate finance, project finance or a mix of both.

Corporate finance

Corporate finance here refers to the many ways of "on-balance-sheet" financing adopted by Chinese project sponsors when investing overseas. Among them, the major ones include:

· Preferential export buyers' credit (优惠出口买方信贷) financing: loans with lower-than-commercial interest rates provided by China Exim Bank to the host country government.

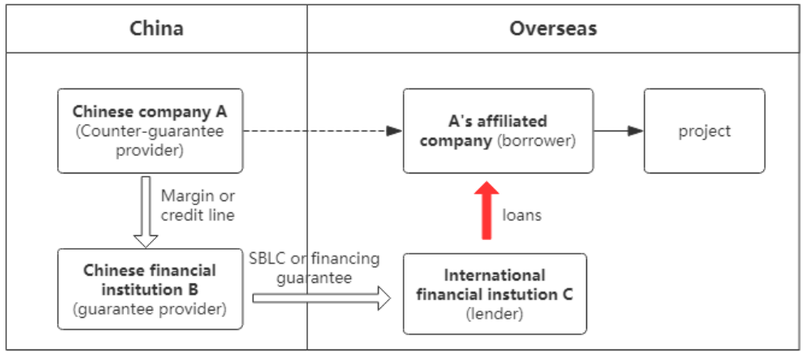
· Export buyer's credit (出口买方信贷) financing: commercial loans provided by Chinese commercial banks to the foreign importer of Chinese equipment and technology, given that Sinosure has provided export buyer's credit insurance for the contract with banks as beneficiaries. State-owned commercial banks usually have a threshold for the contract value (e.g., US$ 4 million for China Construction Bank, US$5 million for ICBC) and requirements for Chinese content.

· Export supplier's credit (出口卖方信贷) financing: commercial loans provided by Chinese commercial banks to the Chinese exporter of equipment and technology, given that Sinosure has provided export supplier's credit insurance for the contract with exporters as beneficiaries.

83 "Environmental & Social Sustainability," Multilateral Investment Guarantee Agency, accessed March 30, 2021, https://www.miga.org/environmental-social-sustainability.

· Onshore guarantees for offshore loans (内保外贷): An onshore bank issues a bank guarantee (in the form of SBLC or financing guarantee) with a counter-guarantee from the parent company of the borrow. The borrow then gets loans from an overseas bank (could be an international bank or a local branch of a Chinese bank).

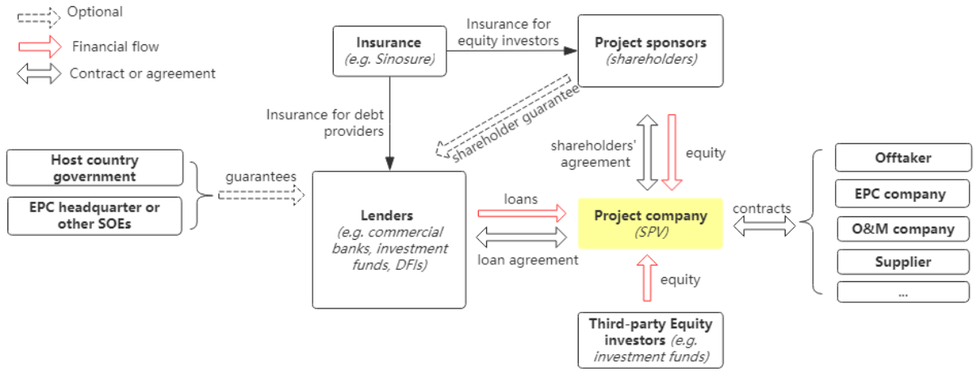
Figure 26 Illustration of onshore guarantees for offshore loans (source: authors)



Project finance

For PPP projects[84], especially where Chinese parties cooperate with international financial institutions, project finance is usually adopted (e.g., Kamchay hydropower dam in Cambodia). In project finance, project debt held in a sufficiently minority subsidiary is not consolidated onto the balance sheet of the Chinese project sponsors.

Figure 27 Structure of project finance (source: authors)



As Figure 27 shows, the lenders evaluate the terms and conditions of their loan to the project company based mainly on the bankability of the project. The project company tends to borrow from banks on everything that could be cashed: the shares of the project company held by project sponsors, all assets on

84 The exact PPP modality, such as BOT, BOOT or BOO, is in most cases decided by the host country governments in accordance with their PPP act or PPP law.

its balance sheets, contracts (such as PPA agreement), account receivables, as well its rights to insurance proceeds, fees, and claims. In most of cases, banks ask for guarantees during construction phase as there are no actual items on the balance sheet that can be sold to repay the debt. The exact type of guarantees depends on individual project.

A typical financial arrangement comprises 30% equity and 70% debt. Depending on the dynamics of a particular project and the country of the investment, the share of equity could be reduced to 20%-25%. Financing institutions typically do not accept higher debt ratios as they would face higher moral risks of investor.

Sector-specific characteristics

The specificities, such as cashflows and operating models of different industries could lead to different feature of financing, shown in Table 17.

Table 17: Sector-specific features of infrastructure project finance

Sectors		Project features	Financing features
Energy	Coal, gas, hydropower	• Relatively stable cash flows • Requiring PPAs (and possibly sovereign guarantees)	• Mostly corporate finance • Increasingly difficult to finance from international sources (and from some Chinese banks).
	Solar, wind	• Smaller investment amount and shorter construction period • Often include subsidies	• Access to diverse international financing sources • Flexible financing models: corporate finance, project finance (often blended finance)
Transport	Road and bridge	• Has the most unstable cashflows in the transport category	• Mostly policy bank loans • Rely heavily on sovereign guarantee and/or corporate guarantee Also see some projects without debt injection especially for the highway connecting downtown with airport or new city
	Railway, metro, port	• More stable cashflows than railway and road	
Water		• Cash flows less stable than energy projects • Water prices are usually government-regulated	• Easier to get financing from DFIs • Diverse operating models, e.g. BT
ICT		• Often in cooperation with local operators as EPC project • Others possibly with financing (e.g., "BF" model: build and finance)	• Mostly corporate finance

Energy

Energy projects are generally more commercially viable than transport, as the cashflows of energy or electricity projects are secured through a Power Purchase Agreement (PPA) and an Implementation Agreement (IA), usually provided by state-owned electricity providers. However, non-green energy

(particularly coal, gas, and hydropower) projects have become increasingly difficult to finance from international sources (and from some Chinese banks).

Green energy (particularly solar and wind) projects have smaller scales and take a shorter time to complete construction. Therefore, they are more commercialised and have access to a wider range of financial instruments (project bonds, corporate finance, mezzanine debt, bridge loan, etc.). As green energy might include government subsidies, banks also take those into consideration during financial modelling and sensitivity analysis.

Transport

Transport projects are recognised as the most difficult to finance among other infrastructure projects (especially road and bridge), due to their unstable cashflows. Less stable cashflows lead to fewer choices of financing mechanisms. For Chinese SOEs, overseas transport projects are usually government to government (G2G) projects, rely heavily on sovereign guarantees, and are mainly financed through export buyer's credit or preferential export buyer's credit.

We also see some Chinese EPC contractors are trying to be the operator of existing transport assets. It enables the operator to receive cashflows from the start of the concession and then refurbish the assets during its operation period piece by piece, which drastically reduces financial stress of operator.

Water

Water projects typically include sewage treatment, seawater desalination, water pipeline projects, etc. The cash flows of water projects are recognised as stable, but might be affected by regulatory risks (e.g., changes in regulation, penalties) in the host country. Besides, water projects are usually non-profits generating and water prices are usually government-regulated for the benefit of the public.

ICT

For the construction of base stations, equipment suppliers usually cooperate with local carriers and adopt the "BF" model: finance and build. ICT suppliers tend to work with clients with whom they have already established connections in the host country to minimise risks. Financing comes from corporate finance, either by the suppliers' own capital or loans borrowed by their group company, making it much less risky for the lenders.

B.5 Construction and operation

During the construction period, syndicated loans for infrastructure projects are issued on a pro-rata basis with equity contributions. They also match the progress of construction instead of by way of a single lump sum amount. In this way, lenders make sure 1) that equity investments have provided the required share of funding (e.g., 20-30% depending on the contract) and 2) that project sponsors report regularly on the progress of the project and act on a timely basis if lenders perceive any potential risks to their loans. Reporting to export credit insurers and commercial insurers is even more important, as unexpected negative incidents could trigger insurance policies in some cases.

The operation and maintenance contractor in Chinese overseas infrastructure projects could be an engineering subsidiary of the Chinese project, local companies, or international O&M companies. In cases

where a local company takes charge of the day-to-day operation, Chinese project sponsors could provide technical assistance and supervision if necessary. To manage risks during the construction and operation phases, Chinese project sponsors prepare emergency plans and follow closely with Chinese embassies, media, consultancies, and local partners to monitor potential macro-level and project-level risks.

B.6 Reporting

During construction of overseas infrastructure projects, Chinese project sponsors will have to report to financial institutions on the project completion schedules, including any material environmental and social risks that would potentially affect the completion progress and the repayment capacities. However, disclosure of project-specific information to the public, even on non-commercially sensitive aspects, has not been mainstream.

Appendix C: The Industry Sector Guidelines (selected for infrastructure projects)[85]

Industry sector	Project/Asset
Infrastructure	• Airlines (2007) English | Chinese • Airports (2007) English | Chinese • Crude Oil and Petroleum Product Terminals (2007) English | Chinese • Gas Distribution Systems (2007) English | Chinese • Health Care Facilities (2007) English | Chinese • Ports, Harbors and Terminals (2017) English • Railways (2007) English | Chinese • Retail Petroleum Networks (2007) English | Chinese • Shipping (2007) English | Chinese • Telecommunications (2007) English | Chinese • Toll Roads (2007) English | Chinese • Tourism and Hospitality Development (2007) English | Chinese • Waste Management Facilities (2007) English | Chinese • Water and Sanitation (2007) English | Chinese
Power	• Electric Power Transmission and Distribution (2007) English | Chinese • Geothermal Power Generation (2007) English | Chinese • Thermal Power (2008) English | Chinese • Wind Energy (2015) English
Oil and Gas	• Liquefied Natural Gas (LNG) Facilities (2017) English • Offshore Oil and Gas Development (2015) English • Onshore Oil and Gas Development (2007) English | Chinese

85 See "Environmental & Social Sustainability," Multilateral Investment Guarantee Agency, accessed March 30, 2021, https://www.miga.org/environmental-social-sustainability.

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