China Third-Party Market Cooperation for Infrastructure Projects: ESG Handbook

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Preface

According to the *Third-party Market Cooperation Guidelines and Cases* issued by the National Development and Reform Commission(NRDC), third-party market cooperation mainly refers to the economic cooperation between Chinese enterprises and other relevant national enterprises in third-party markets. Cooperation projects are dividing into five categories: product service, engineering cooperation, investment cooperation, financial-industrial combination, and strategic cooperation. Third-party market cooperation will help Chinese enterprises complement the advantages with enterprises from other countries to promote third-country industry development, improve infrastructure and people's livelihood in third-party countries, and realize the benefits of "1+1+1>3". In June 2019, the *Memorandum of Understanding on Third-party Market Cooperation* (hereinafter referred to as the *Memorandum*) was signed during the 10th UK-China Economic and Financial Dialogue. It aims to strengthen the collaboration in the third-party market cooperation, bringing opportunities for enterprises while promoting the social and economic development of the host country. For now, China has signed third-party market cooperation documents with 14 countries including Singapore, Japan, Italy, UK, etc.

Environmental, Social and Governance (ESG) is an effective measure of sustainable project operation and management, providing the credit performance beyond financial metrics that reflect the project's sustainability capabilities through ESG considerations. In recent years, various ministries and commissions including the NRDC have increasingly attached importance to the role of ESG in capital markets, in the construction of 'One Belt and One Road' projects， in the high-quality development of state-owned enterprises and in other aspects. Particularly, they emphasis on how to coordinate international and domestic ESG standards to ensure the ESG compliance of Chinese overseas investment projects. With the ESG concept gradually become the international consensus on practicing sustainable development and exploring the path of "carbon neutrality", the third-party market cooperation projects can use the international influence of ESG as a bridge to create a concrete foundation for Chinese projects' internationalization through the implementation of ESG performance standards and third-party market cooperation.

The main output of the *Memorandum* is the *ESG Handbook of Chinese Third-party Market Cooperation Projects*, which provides strong supports for the implementation of the *Memorandum*. As an important part of the *Memorandum*, this handbook aims to strengthen cooperation between China and UK and to prepare for future business cooperation, project docking, and the formulation of relevant support policies and rules. China is committed to integrating its advantages and UK' expertise in third-party market cooperation, further promoting high-quality and sustainable third-party market cooperation projects with developed countries. This handbook is based on the actual situation of China's social and economic development, with reference to the international ESG framework and meeting international sustainability standards and requirements (such as the Equator Principles). The handbook takes into account the local characteristics of China, and forms a Chinese ESG indicator system that is more suitable for the Chinese market and easier for Chinese companies to understand, and explores the practical guiding significance of incorporating ESG into third-party market cooperation projects. This handbook compares and analyses the domestic and foreign ESG standards, then innovates and forms a self-evaluation mechanism, and uses a risk identification model to provide operational guidance for full-cycle ESG management of third-party markets cooperation projects in China. In addition, this handbook provides suggestions for utilizing ESG in third-party market cooperation projects that aim to improve the quality and sustainability of the projects and strengthen the competitiveness and enhance the capacity of Chinese projects to obtain sustainable international finance.

I. Background

This chapter illustrates the current situation and trends of Chinese participation in third-party market cooperation projects and analyses the importance of ESG's supports and the main problems in third-party market cooperation.

(I) Current situation of third-party market cooperation projects in China

1. Third-party market cooperation projects are mainly supported by diversified funds and regard developmental and policy-oriented financial institutions, special investment funds and local commercial banks as the primary financing channels.

Diversified financial support is a significant feature of third-party market cooperation projects. For example, according to the statistics of *the "Belt and Road" National Infrastructure Development Index Report 2019*, as early in 2017, the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) under the World Bank Group provided a total of US$192.1 billion in loans to 71 countries along the "Belt and Road". On the other hand, third-market cooperation projects have broadened the project financing channels and diversified the risks of financial institutions to some extent through the measures of syndicated loans, co-financing, on-lending, equity participation. Therefore, many project investment and financing entities are also shown in *Third-party Market Cooperation Guidelines and Cases*. For example, the expansion project of Tema Port in Ghana was financed by the Bank of China and the International Finance Corporation (IFC) and jointly prepared US$670 million in loans. And Russia's Yamal LNG project's co-financing parties include Russia's Novatek, France's Total, China National Petroleum Corporation and the Silk Road Fund.

2. China's third-party market cooperation projects have been developed smoothly and orderly.

During the "13th Five-Year Plan" period, China's foreign business scale has developed steadily and orderly. The new contracted foreign projects have signed approximately US$1.2 trillion and completed US$773.8 billion in turnover. The total number of China's foreign contracted engineering contracts in 2019 was 11,932, and the value of newly signed contracts was US$260.25 billion, an increase of 7.6% year-on-year. According to the US Engineering News Record (ENR) evaluation, 74 Chinese enterprises are among the top 250 global large international contractors in 2020. In terms of the proportion, Chinese projects contracting accounted for 25.4%. The following figure presents China's "turnover of completed foreign contracted projects" in recent years. Except for the significant decline due to the COVID-19 epidemic in 2020, the scale of overseas projects and assets of Chinese enterprises has shown a steady upward trend.

Figure 1 China's "Turnover of Foreign Contracting Projects "(2015-2020)

Source: NSO, IIGF

3. ESG concepts are gradually gaining attention in third-party market cooperation projects.

From the practice of Chinese enterprises participating in third-party market cooperation projects, foreign governments or project partners are increasingly concerned about the economic, social and environmental impact of projects. For example, in 2017, a power station project jointly invested by Bangladesh's S.ALAM Group and Shandong Electric Power Construction Third Engineering Company has caused severe environmental pollution and eventually led to fierce protests of local people. Likewise, in 2019, the hydro-power project in Sumatra financially supported by the Bank of China was controversial due to its potential threats to local biodiversity.

(II) The main problems in third-party markets cooperation projects at this stage in China

At the current stage, China faces the following four problems when carrying out third-party market cooperation projects. **Firstly, the project executors neglect the requirements of sustainability standards, which will make it difficult for enterprises to seek third-party market partners and expose them to financing difficulties and the risk of sanctions.** While Chinese project executors are moving into overseas markets on a large scale, their awareness of compliance and insufficient understanding of international rules, especially the elements of sustainable development, will lead to being forcibly terminated in the middle of implementation, sanctioned by the governments and international organizations in the places where they operate, and blocked by multilateral cooperation and funding parties. These issues have caused severe negative impacts on the comprehensive development of third-party market cooperation. **Secondly, due to the COVID-19 epidemic, the global investment market has become more stringent in scrutinizing projects, and the cost**

and risk of financing have increased. Under the COVID-19 epidemic, the screening threshold regarding investment in overseas projects has been raised. Both the application of sustainability standards and implementation performance, as well as the return on investment, will face more cautious and stringent investigate mechanisms, prompting the tightening of financing channels for third-party market cooperation projects and increasing financing costs. In addition, with the stronger awareness of geo-economic, many countries have tightened their foreign investment investigate systems to protect local enterprises and industrial development. The geopolitical, economic and political risks of third-party market projects at the levels of cooperation agreements, construction and operation and maintenance will increase significantly. **Thirdly, there are many stakeholders involved in the third-party market cooperation, making the project implementation and management more complicated.** Stakeholders of third-party market cooperation projects include bilateral cooperative enterprises, local and international financial institutions, material suppliers, government and residents of the project host country, project employees. Stakeholders participating in the projects with different backgrounds will increase operation and transaction costs and impact decision-making, implementation, and operation efficiency. **Fourthly, the difference in the measurement standards among stakeholders will affect the project implementation to a certain extent.** This problem is mainly reflected in “carbon emissions”. On the one hand, differences in the attribution of carbon emissions measurement might cause disputes of carbon measurement and identification between the cooperative project and the host country. For example, the carbon emissions of overseas third-party markets cooperation projects in developed countries are classified and measured in the host country. While the project carbon emission of countries in the “Belt and Road” agreement will apply the Chinese measurement. On the other hand, the construction parties implement multiple carbon emission and carbon calculation standards will vary the carbon emission result of the project.

(III) The need for ESG to support third-party market cooperation projects

1. Sustainable development has become a global consensus, and ESG provides standardized guidelines and references for the development of third-party market cooperation projects.

In response to the different levels of awareness and concepts of sustainable development among Chinese project executors, overseas partner companies and project host countries, and the different focus elements, ESG provides a multidimensional and traceable performance reference for projects in third-party markets with standardized qualitative and quantitative indicators. While providing guidance to Chinese project executors intending to carry out overseas cooperation projects, it can also effectively resolve conflicts and deviations at different stages, such as communication, project construction, operation and maintenance, performance assessment, information disclosure and results acceptance.

2. ESG helps achieve the goal of “carbon neutrality” and promotes the sustainable development process of third-party market cooperation projects.

In the context of global joint efforts to achieve carbon neutrality, the third-party market cooperation projects designed and implemented based on ESG index system and evaluation framework can effectively track the qualitative and quantitative aspects of addressing climate change, energy conservation and emission reduction, environmental protection, green technology, etc. By monitoring the sustainable development ability of the whole ecological chain of the project, the project will realize the sustainable development goal and contribute to the realization of carbon neutrality. Moreover, the project can win the support of the local government and social organizations of the host country, thus accelerating the implementation process of third-party market cooperation.

3.ESG promote high-quality completion of cooperation project and increase competitiveness and initiative of Chinese project executors in international cooperation.

As an evaluation element other than economic performance, ESG can comprehensively evaluate the sustainability of the project. Third-party market cooperation projects can ESG indicator system to clarify the advantages and disadvantages of the project in the international market and identify potential risks of cooperation. In addition, project executors can set ESG targets based on ESG indicators to optimize and improve the project management ecosystem (sustainable design, R&D, innovation, and risk management). While ensuring the high-quality promotion of the project, project executors can use project ESG performance as the endorsement to improve their competitiveness and initiative in international project cooperation and create a high-quality, green and sustainable Chinese brand.

4.ESG promotes third-party market cooperation projects to obtain international cooperation and financial and technical supports.

Deepening ESG awareness during project design and execution will help attract more high-quality third-party market partners. Taking quantitative and comparable ESG indicator performance as the data reference is a primary measure to broaden project financing channels and obtain international capital supports. While connecting international financial capital to broaden preferential financing channels and reduce financing costs, the international platform's green technical reforms and innovations will provide more opportunities for the long-term development of China's third-party market cooperation projects.

5.Chinese government and departments have gradually attached importance to the practice of ESG and put forward higher requirements for third-party market cooperation projects.

In order to accelerate the green development of foreign investment and cooperation projects and establish a green and low-carbon circular development economic system, the Ministry of Commerce of China and the Ministry of Ecology and Environment jointly issued the *Guidelines for Green Development of Foreign Investment and Cooperation* in July 2021. The document proposes ten key tasks to promote foreign investment projects, including the constructing of green infrastructure, encouraging project executors to carry out the planning and design of overseas infrastructure projects with high standards, and properly handling the relationship between the project and the residents of the host country, the environment, and the ecology. In addition, the State-owned Assets Supervision and Administration Commission of the State Council stated at the “ESG China Forum 2021 Summer Summit” that ESG has been included in the key work of promoting corporate social responsibility. State-owned enterprises should correctly understand the importance of ESG and actively participate in the construction of China’s ESG rating system. Only by actively practicing green development concepts and ESG practices when developing third-party market cooperation projects, and formulating practical and feasible project implementation plans, can project executors play a key role in open development and win the initiative in international cooperation and competition.

II. Comparative Analysis of Domestic and Foreign ESG Evaluation Standards

This chapter introduces the ESG evaluation standards issued by major international organizations and financial institutions around the world as well as the Chinese ESG standards practices of overseas cooperation projects, especially in the case of infrastructure construction projects in the background of the gradual development and improvement of the current awareness of sustainable development. Furthermore, a comparative analysis is conducted on the differences between domestic and foreign standards together with the possible triggers behind them. And this section also reveals the problems that Chinese project executors are likely to face when they adopt international standards in launching third-party market cooperation projects, which will peovide relevant reference for the innovative construction of the ESG handbook of China's third-party market cooperation project in the following section.

On the international level[1], most authoritative international organizations including the United Nations, the World Bank Group, the Equator Principles Association, the Global Reporting Initiative, and so on, introduced standards and operational manual (see appendix for details) on sustainability and ESG related issues either for their own projects or the project executors, which provides a reference for environmental and social management for international project cooperation. Meanwhile, as the prominent players in third-party cooperation, multilateral development banks tailor their ESG related evaluation standards at the project and enterprise support level to further regulate the environmental and social compliance of third-party market cooperation projects at various stages of progression, which guarantees for the implementation of projects in the host country. On the domestic level, although China has not yet formed ESG evaluation standards specialized for project management, different entities such as government supervisors, industry self-regulatory organizations, stock exchange platform, and financial institutions, have issued a set of multi-party project implementation ESG standards (see appendix for details), aiming to help project subjects gradually establish the concept of sustainable development and standardize the implementation of ESG concepts in the process of project development and business operations.

1 For more information on international ESG standards and their contents, see KPMG report *Guide to ESG Evaluation and Assessment for Overseas Infrastructure Projects*.

(I) Analysis on differences between domestic and foreign standards

The following section analyzes and compares the characteristics of ESG-related standards domestically and abroad from the aspect of general entities that these standards apply, industry classification, main contents of the standards, mechanisms of supervision and communication, and the evaluation process. The differences between domestic and foreign ESG standards are mainly manifested as following: international standards are involved in projects and project executors, while domestic standards are currently only for project executors and lack specific standards for projects; there are differences in the classification of domestic and foreign industries and industry standards; they put emphasis on different aspects in the Environmental, Social and Governance dimensions; international standards have developed relatively better public supervision and communication mechanisms for all stakeholders; the evaluation process of international standard is more comprehensive, and etc. The main reasons causing the above differences are due to the various national conditions and systems, different market development levels, different business models, stakeholder needs and the fact that the concept of sustainable development has not yet become a mainstream in China.

1. Comparison of domestic and foreign standards

(1) Applied Entities[2]

2 Applied Entities in the context of foreign ESG-related standards generally refer to the project itself or various project executors, while domestic ESG-related standards are only applied for project executors, which typically refer to enterprises.

Table 1 Comparison of domestic and foreign standards

Standards	Applied Entities	
International level	**Project Executors**	**Project**
Performance Standards on Environmental & Social Sustainability	√	√
Environmental and Social Management System Implementation Handbook	√	
Equator Principles		√
General Environmental, Health, and Safety Guidelines		√
GRI Sustainability Reporting Standards	√	
Sustainability Accounting Standards Board (SASB) Standards	√	
Multilateral development banks' relevant standards in third-party markets(AIIB、ADB、AfDB、NDB and etc.)	√	√
Domestic level		
Code of Governance for Listed Company	√	
Guidelines on Listed Companies' Environmental Information Disclosure	√	
Rules of the Shanghai Stock Exchange for the Listing of Stocks on the Science and Technology Innovation Board	√	
Shenzhen Stock Exchange Social Responsibility Instructions to Listed Companies	√	
Requirements for Environmental, Social and Governance for Hong Kong Exchanges and Clearing (HKEX)	√	
Guidelines for Chinese Enterprises' Overseas Sustainable Infrastructure Projects	√	

Source: IIGF

After viewing all applied entities in both domestic and foreign ESG-related standards, it is aware that foreign standards tend to be more sophisticated on the specialized standard-setting for different applied entities (such as projects or project executors), while the domestic framework or guidelines are only targeted at listed companies, lacking the establishment of rating standards for projects themselves. In terms of international standards, the United Nations, the World Bank, and its independent private sectors like International Finance Corporation, the

Global Reporting Initiative, and other international institutions and organizations have all formulated framework standards related to sustainable development independently. Although these standards and guidelines differ slightly in their applied entities, goals, strategies, and focuses on indicators, they have shown strong consistency in the key principles and ensured the coverage of key issues such as environment and pollution prevention, biodiversity, labor and working conditions, health and safety, equality and human rights, etc. In terms of domestic standards, the government has enacted various documents calling on project executors to pay more attention to social responsibility and sustainable development and some self-regulatory associations have also issued relevant guidelines. However those guidelines mainly aim at the project executors, specific practical guidelines or reference standards for projects have not yet been formed. At present, the domestic information disclosure requirements and guidelines on sustainable development and ESG-related issues are mainly proposed for the listed companies. Although the overall framework is relatively universal, it lacks attention to industry and characteristic issues.

(2) Industry Classification

In terms of industry classification, taking the infrastructure construction industry as an example, different organizations and institutions at home and abroad have different standards for the definition and classification of specific sub-industries of infrastructure construction, hence there are also differences in the indicator design of related industries. Taking the General Environmental, Health, and Safety Guidelines of the World Bank Group as an example, its infrastructure industry is divided into 14 subcategories, which are aviation, airport, crude oil, and petroleum product transportation, gas supply systems, medical services, ports and terminals, railways, retail petroleum products, shipping, telecommunications, toll roads, tourism and hotels, waste management facilities, water, and sanitation. In contrast, the industry classification of the infrastructure construction in China mainly involves public engineering facilities and public life service facilities, including transportation, communications, water conservancy construction, power production and supply, and other major industries. Differences in the definition of industry and the coverage of sub-industries at home and abroad to a certain extent affect the setting and requirements of ESG-related indicators at the industry level.

(3) Standard Specification

In terms of standard specification, due to differences in the number of indicators or disclosure requirements, although Chinese and international standards emphasize that the three dimensions of ESG are equally important, they still have different directions of attention. For international standards, take the GRI Sustainability Reporting Standards as an example, in terms of the number of secondary indicators, its social disclosure series covers 19 secondary indicators, even more than the sum of the secondary indicators of both the economic and environmental series. From the perspective of the number of secondary indicators, international standards tend to set more detailed criteria at the social level. For Chinese standards, at present, China has not formed a unified framework and standards for ESG information disclosure, which indeed have some discrepancy with the international standards. However, in terms of the disclosure requirements of current situation, the regulatory authorities have mandatory disclosure requirements at the governance and environmental level, while voluntary disclosure is still the main issue at the social level.

(4) Supervision and Communication Mechanism

In the aspect of supervision and communication, international standards have established a comprehensive mechanism of public supervision and stakeholder communication. In contrast, China is still dominated by governmental supervision and lacks public participation and complaint mechanism. The Equator Principles, for example, require continuous interaction with

stakeholders throughout the life cycle of the project. This includes formulating a stakeholder participation plan, regularly conducting project information disclosure and related party consultation to ensure that all parties fully understand the potential risks and impacts of the project and obtain timely and reliable information. Moreover, international standards require the establishment of an enforcement compliant mechanism to receive complaints from all stakeholders of the project so as to progress the resolution. However, China has not yet clearly required the introduction of relevant mechanisms, and some project executors will ignore the needs of some disadvantaged stakeholders in the process of project implementation for pursuing higher returns.

(5) Evaluation Process

As for the evaluation process, international standards have achieved full coverage of the entire life cycle of the project, but China has not yet formed a comprehensive evaluation standard and process for all stages of project preparation, implementation, and operation. Considering the Equator Principles, financial institutions with the Equator Principles only provide project financing for projects that meet the ten principles, which correspond to each stage of the project finance life cycle. For due diligence investigation of the pre-project, it is necessary to classify the projects according to the risk and scale of the projects and conduct an independent review of the social and environmental aspects of the projects, requiring projects to satisfy the corresponding laws and regulations of the host country. During the signing phase of the project, the environmental and social management system, the Equator Principles Action Plan, and the commitment clauses should be confirmed and reviewed. In the project maintenance stage, the project is required to provide separate monitoring and reporting. Meanwhile, relevant project information disclosure, resource sustainability management, and other principles should run through the evaluation of the entire project phase. In contrast, China lacks a set of evaluation procedures and mechanisms covering the whole life cycle of projects.

2. Reasons behind differences between domestic and foreign standards

The main reasons for the above-mentioned differences in domestic and foreign standards are as follows: **Firstly, it is due to differences in different national conditions and systems.** While international standards' framework is universal but lacks considerations of political systems in different countries, cultural practices, and other national circumstances. The development of China's national conditions has incorporated Chinese characteristics[3], and hence the standard-setting is conformed to the policy orientation. For example, in February 2021, the State Council issued the "Guiding Opinions on Accelerating the Establishment and Improvement of a Green and Low-Carbon Cyclic Development Economic System", which proposed a top-level design for high-quality green development. Therefore, the corresponding standards and guidelines should focus on green and low-carbon recycling development, focusing on the corporate environmental performance and green transformation. **Secondly, it is due to the different levels of development of domestic and foreign markets.** The construction of international standards is originally based on the development status and principles of developed markets in the Europe and the United States, while the standards formulated for developing countries lack some differentiated indicators. Although the diversification of other markets has been gradually strengthened in the subsequent development process of the international standards, the current international standards on the ESG ratings of Chinese capital market and enterprises are still significantly underestimated, and still lack sufficient applicability. Based on the characteristics of China's capital market, state-owned enterprises controlled by the government play an important role in the capital market, focusing on the preservation and appreciation of state-owned assets, and more embodying the characteristics of corporate

3 Chinese characteristics refer to China's adherence to the development path of socialism with characteristics and the leadership of the Communist Party of China, based on China's basic national conditions. Moreover, China is centered on economic construction, adheres to reform and opening up, and carries out the construction of a socialist market economy, democratic politics, advanced culture, a harmonious society, and a socialist ecological civilization. The "indicators with Chinese characteristics" mentioned in this handbook refers to relevant indicators that meet the requirements of China's top-level design strategy and the status quo of social and economic development, and can effectively measure China's current capital market development status.

administration and market stability. Therefore, the standards for China's capital market will put forward certain requirements on state-owned enterprises. **Thirdly, it is because of the differences between domestic and foreign business models and the needs of major stakeholders.** Based on the history of foreign commercial development, there will be certain profit considerations when setting general standards. For example, the GRI series of standards cover economic indicators. In our domestic business model, especially in the field of infrastructure construction, policy banks such as the China Development Bank and the Export-Import Bank of China have provided important policy and financial support for state-owned enterprises to carry out third-party market cooperation. The performance of the social responsibility level puts forward higher requirements. **Fourthly, the concept of sustainable development of various market players in our country has not yet been fully established.** At present, the concept of sustainability and ESG development in the world has increasingly become mainstream. In China, market agencies cannot yet identify environmental and social risks, and therefore have not yet realized the long-term advantages of ESG and the role of boosting high-quality development. There are still many enterprises that have not yet incorporated sustainability and ESG concepts into their strategic planning. The lack of awareness is also one of the important reasons why Chinese standards cannot be fully integrated with international standards.

(II) Challenges faced by China in developing third-party market cooperation by adopting international standards

1. Lack of ESG methodological guidance and difficulties in constructing the information disclosure framework

Overall, ESG information disclosure methodology should also include third-party market together as project related ESG basic content of information disclosure, processes, report writing, internal management, and so on. At present, the Chinese government has not formulated environmental, social, and governance-related standards or regulatory documents for certain projects. The lack of top-level policy design and methodology has caused the ESG information disclosure of the project or project executive to become spontaneous market behaviors, and the disclosure rate and quality situation are uneven. At this stage, project executors (represented by listed companies) mainly rely on the professional strength of third-party evaluation agencies and self-regulatory organizations or to disclose information on voluntary social responsibility reports, and the degree of information disclosure is determined by the project executors themselves. According to statistics from the International Institute of Green Finance of the Central University of Finance and Economics, by the end of 2020, the ESG report disclosure rate of A-share listed companies only accounted for 24.74%. In contrast, the transparency of ESG-related information of the project is more limited. Only part of the environmental and social benefit information is scattered in the feasibility study report or environmental assessment report, which makes it difficult for stakeholders to systematically understand the status of the project. Meanwhile, the missing of high-quality ESG data of projects also cause government agencies difficult to clearly grasp the real situation of existing cooperation projects in third-party markets, therefore it is difficult to improve the supporting policies that impede policy transmission mechanism to play a “top-down” effect, forming a potentially vicious circle.

2. Neglection of China’s national conditions in the international system of sustainable development

In third-party market cooperation, projects need to clearly adhere to relevant cooperation principles such as “green”, “climate change”, “sustainable development”, and focus on ESG risk assessment and management. Meanwhile, the current international standards applicable to project evaluation include but are not limited to *Equator Principles 4*, *Environmental and Social Sustainability Performance Standards*, *Environmental, Health, and Safety (EHS) General Guidelines* and other

content. The current general guidelines are a universal framework containing comprehensive constraints, with the characteristics of universality, standardization, and uniformity. Therefore, the application scenarios directly used for operation are not clear enough, and the actual effect of implementation is limited. As Chinese project executors are the core construction parties for third-party market cooperation, the environmental benefits, social benefits, and internal management effectiveness of the project directly or indirectly generated are the key points of measurement. Therefore, effective ESG information disclosure needs to take the international common standards and the characteristics of China’s national conditions into account. Taking the performance standard 5 “Land Acquisition and Involuntary Relocation” of *Equator Principles 4* as an example, the impact on the indigenous people involved in the project development process should be reflected. In Chinese culture and project management, this can be mainly understood and paraphrased as the normative indicators of qualitative and quantitative assessment such as “ compensation for relocation,” “poverty alleviation”, “community” and “charity”. Given the limited applicability of indicator principles, Chinese project executors have some significant technical barriers.

3. Limited understanding of ESG concept for project executors

Third-party market cooperation is still in the exploration and development stage, so all stakeholders are taking actions for more progression. Now the project cooperation is still in urgent need of open cooperation and linkage development. It focuses on strengthening the market cooperation mechanism construction, expanding the infrastructure construction cooperation areas, optimizing the business environment and opening support services led by government and expanding project financing channels. Although “carbon neutrality” and “sustainable development” have increasingly become the common keywords of international cooperation, the concept of high-quality development represented by ESG has not been clearly implemented in the whole process of project development. From the market perspective, even though the globalization of the ESG concept has a significant trend, international funds flow to financial products such as stocks and bonds with a high performance of ESG, thus triggering multiple elimination mechanisms. However, the development of ESG in China is still in its primary stage, and the focus of attention is still on the financial market. Even if public opinion and market demand have a positive effect on the participants (enterprises, investors, and governments), but still in a subtle way. Project executors have not yet mastered and applied sustainable criteria in the industrial chain, and the field of projects is still in the blind area of vision with a relatively weak practice of the relative theory of the foundation.

4. Deficiency in facilities for sustainable development of third-party market cooperation projects

In the process of actively implementing ESG concepts, carrying out information disclosure, and improving their own environmental and social benefits, third-party market cooperation projects not only require a complete methodology and indicator system as a key reference, but also require personnel training, external exchange of personnel, and the third-party assessment agencies as supporting facilities. At present, the market's interpretation of mainstream sustainable general principles such as *Equator Principles 4* mainly stays at the level of industry norms and academic research. The market training strength is insufficient and unsystematic, meanwhile, it is not integrated with Chinese characteristics, which makes it difficult for enterprises to implement. In addition, there is no ESG exchange platform with third-party market cooperation projects as the main body. Taking infrastructure construction projects as an example, the construction party lacks successful and replicable experience and capacity building in the financing, starting projects, ESG performance monitoring, etc. The mechanism is flawed. At this stage, even though the "Belt and Road" project is developing vigorously and has formed a relatively mature multilateral

cooperation model, sustainable development still requires business entities to effectively implement environmental protection, effective governance, and other measures in all aspects of production and operation, which exists technical barriers that need third party think tank specializing in giving support. The gap in existing market mechanisms is not conducive to Chinese project executors to develop self-improvement of cooperation in third-party markets.

III. The ESG Handbook for China to Carry out Third-party Market Cooperation Projects

This chapter has compiled an ESG handbook for Chinese third-party market cooperation projects to improve the ESG performance, actively implement international ESG standards, and lay a solid foundation for going overseas. In addition, it aims to form ESG management and execution reference for Chinese project executors to carry out third-party market cooperation projects.

(I) General Provision

1. This manual is compiled according to *The 14th Five-Year Plan for the National Economic and Social Development of the People's Republic of China and the 2035 Route Outline*, *Guidance Opinions on Building a Green Financial System*, *Guidance on accelerating the establishment of a solid green low-carbon cycle development economic system*, *Opinions on further improving the quality of listed companies, Action Program on building a high standard market system* launched by the Central Committee of the Communist Party of China and the State Council, the *Guidance for central enterprises to fulfill social responsibility* and *Central Enterprise Overseas Investment Supervision Management Measures* launched by SASAC, *Enterprise overseas investment management measures* launched by the National Development and Reform Commission, the *Green Industry Guidance Catalog (2019 Edition)* launched by the National Development and Reform Commission along with seven other ministries and commissions, *Foreign Investment Cooperation Environmental Protection Guide* and *Management Measures for the Report of Foreign Contracting Projects (Draft for Comment)* issued by the Ministry of Commerce, *Listed company governance criterion* and *Listed company investor relations management rules* issued by the China Securities Regulatory Commission(CSRC).

2. According to the definitions in the *Third-Party Market Cooperation Guide and Case compiled by the National Development and Reform Commission*, "third-party market cooperation" refers to the collaboration between Chinese enterprises (including financial institutions) and relevant foreign enterprises, which carries out economic cooperation in third-party markets. As an open-inclusive international cooperation model, it helps Chinese and foreign enterprises generate advantage complements, which jointly promotes the industrial development of third-world countries and achieves the "1+1+1> 3" effect. This ESG handbook provides an operational reference for China to carry out sustainable third-party market cooperation projects.

3. The ESG evaluation criteria involved in this handbook mainly refers to the following international standards:

(1) Sustainable Development Goals

(2) International Financial Corporation (IFC) -*Environment and Social Sustainability Performance Standard*

(3) International Financial Corporation (IFC) -*Environmental and Social Management System (ESMS) Implementation Manual*

(4) Equator Principles

(5) World Bank-*Environment, Health and Security (EHS) Guide*

(6) Global Report Initiative Organization (GRI)-*Sustainable Development Report Standard*

(7) Sustainable Development Accounting Standards Commission (SASB) standard

4. The ESG handbook requires Chinese project executors to carry out the practice of third-party market cooperation projects comply with the following principles:

(1) Adhere to the principle of legitimate and compliance

The third-party market cooperation project must strictly abide by the People's Republic of China's relevant laws and regulations. It should also follow the laws and regulations of host entities (both the host countries and the foreign partners).

(2) Fair, Objective, Scientific and Rigorous

The project's operational process and mechanism should follow a rigorous methodology. The ESG handbook should be carried out under objective standards, reducing subjective intervention risks, and conducting the reasonable evaluation.

(3) Unify Environmental, Social, and Economic Benefits

In addition to pursuing economic benefits, the third-party market cooperation project should also thoroughly consider the environmental and social impact that may influence the host country and nearby communities. The project shall set up risk management mechanisms and feedback on the potential side effects through dynamic evaluation processes.

5.The ESG handbook applies to Chinese enterprises with third-party market cooperation projects or previous experiences. It instructs the third-party market cooperation projects to achieve success in the host country within its entire project life cycle, receiving project management persistence.

(II) Analysis of Key Elements of the Third-party Market Cooperation Projects

This section analyses the key elements of the third party market cooperation projects from the principles of sustainable development, financing, risk management, resources integration, platforms and other dimensions. It aims to help the project executors understand the main areas that they need to focus on during the projects and to carry out the self-check process.

1. Sustainable development: Both apply to international standards and domestic conditions

The Chinese market-oriented economy development trend has driven a double-cycle transition path, which set an even higher demand for third-party cooperation projects. The "going abroad" projects actively attract support from various financial resources, e.g., multilateral development banks, investment funds, and international financial institutions, to spread capital risk and build a more multi-level financial support system. At present, international financial investors generally adopt the "Principles for Responsible Investment". It essentially guides capital flow to environmental-friendly and social-responsible fields, addresses climate change risks, and generates a positive impact on ecological balance and human development. To meet the international financial market's basic requirements of sustainable development, Chinese project executors tend to consider international standards in the project's internal risk management and external information disclosure. Meanwhile, Chinese national characteristics (e.g., cultural, social, politics) and localized ESG differences are also the key criteria for high-quality development. Chinese project executors should positively guide the third-party market's stakeholders to prioritize projects that adapt to international standards and Chinese national characteristics, securing the foreign partner's fundamental rights and the host country's sustainable development.

2. Financing resource: Build an effective third-party cooperation financial market

The third-party cooperation project is the basis for improving regional trade and the critical step of global economic and social development. However, the vast financing gap has become an increasingly severe challenge for third-party cooperation projects. Nowadays, the regional financial infrastructure and each host country's market are not well developed, with problems such as capital liquidity risks, non-performing loans rate, and high-leveled economic and industry risk ratings. Additionally, according to the differences between Chinese and foreign project executors, the file formats and regulatory standards also potentially reduce the transaction's efficiency and quality between both supply and demand sides. The development of third-party market cooperation can promote regional monetary stability and construct a financial and credit system to establish inter-regional economic cooperation mechanisms. Taking the " The Belt and Road Initiative" as an example, regions (Chinese and overseas enterprises, host markets) tend to break down the barriers in the financial markets, which further promotes the establishment of cooperation, communication, and cross-border financing channels.

3. Risk management: Enhance capital and credit risk control

The potential risks of third-party market cooperation are diverse, including systemic risks such as political and legal factors. They can easily transmit to market risks and credit risks, which hinder investment decisions. Through strengthening cooperation with professional consulting institutions, Chinese project executors might carry out the practical analysis of project requirements and various countries' potential risks. Risk management focuses on the localized culture, employee integration, environmental protection and social responsibility carries out a risk prevention mechanism that can consolidate the stability of third-party market cooperation projects. Besides, the government mainly plays strategic deployment, international coordination, and organizational mobilization and

implements communication coordination. By strengthening cooperation with professional consulting institutions, Chinese enterprises can analyze project requirements and various countries' risks. Meanwhile, the government and industry self-regulatory organizations could hold investor education sectors and guide domestic and foreign financial institutions to make differentiated investments, ensuring maximum return and minimum capital risk.

4. Resource integration: Promote the optimal allocation of resource elements

The range of stakeholders involved in third-party market cooperation is broad, and the key entities hold various characteristics in the relevant business models. Regardless of the technology, capital, or management experience, each entity has comparative advantages and shortcomings. The resource integration efficiency ultimately determines the project's financing, and credit enhancement strength, which is also one of the core elements that boost third-party projects outperformed the international financial market. Therefore, Chinese enterprises should take advantage of all parties' resources based on the project's characteristics, expand the cooperation scope, and form a multilateral cooperation system. Chinese enterprises could also enhance the concept of mutual trust, promoting multilateralism mechanisms.

5. Financing platform: Establish an innovative financing system

Third-party market cooperation involves multiple business conditions, among which the financial markets in different countries or regions are relatively independent. It becomes one of the difficulties in financing multilateral collaboration. Therefore, capable Chinese project executors are encouraged to unite to form third-party market cooperation bodies. It could jointly promote financial market dialogue mechanisms. For example, through the "One Belt One Road Initiative" cooperation, medium and long-term sustainable development bonds are issued to achieve direct financing support in financial markets. It also promotes the Asian region's economic integration, demutualizes the third-party market projects, raises funds demands for project construction, and hedge risks. In addition, the third-party market could also innovatively establish a particular stock exchange to lead the enormous international surplus savings funds and private capital to the cooperation field, creating an effective financing platform.

(III) ESG Self-Checklist

This ESG self-checklist follows the requirements and framework of the international general ESG standard, and sets specific indicators in consideration of the actual situation of China's social and economic development, in order to provide a more Chinese-specific standards with more Chinese characteristics for China's third-party market cooperation projects which the project executors could better understand and apply. The ESG Self-Checklist form consists of the"general ESG self-checklist form","the industry-specific ESG self-checklist form"and"the host entity ESG self-checklist form". The ESG Self-Checklist is used to provide comprehensive ESG evaluation standards for third-party market cooperation projects. It provides self-check reference on whether the project meets the requirements of international ESG standards. Chinese executor of Third-party market cooperation projects can refer to this self-inspection form for regular self-examination or professional third-party organizations for complete their ESG evaluation. The more indicators that are fulfilled, the better the performance of the executing party in the corresponding ESG specific sectors. Market cooperation project application, cooperation, implementation and later evaluation stages will empower with more discourse and competence. For indicators that have not yet been checked, the Chinese project implementer can improve specific key indicators based on industry characteristics, project characteristics, host country and partner specific key indicators as priority, so that they can serve as support and assistance for third-party market cooperation projects management efficiently.

1. General ESG self-checklist

The general project self-checklist form comprehensively is suitable for the project executors that combines ESG dimensions of all aspects in the "Equator Principles 4", "General Guidelines for Environment, Health and Safety", "GRI Standards", and "IFC Environmental and Social Performance Standards". The first, secondary and tertiary quantitative, and qualitative indicators apply to all third-party market cooperation projects and provide a reference for self-examination of third-party market cooperation projects.

Table 1 General ESG self-checklist form

Level I	Level II	Level III	Qualitative/ Quantitative	Source
Environmental	Energy saving and emission reduction	Whether the project has formulated the energy conservation and emission reduction plan?	Qualitative	EP4, EHS
		Whether the greenhouse gas emissions management has been unified?	Qualitative	EP4, EHS
		Whether the project's greenhouse gas emission has been disclosed?	Quantitative	GRI STANDARDS
		Whether the company has implemented measures to improve the traditional energy utilizing efficiency?	Qualitative	EP4, EHS
		Whether the project actively uses renewable energy?	Qualitative	EP4, EHS
		Whether the project takes water saving measures?	Qualitative	EP4, EHS
		Whether the project discloses the water consumption information?	Quantitative	EHS
		Whether the project discloses the power consumption information?	Quantitative	EHS
	Pollution treatment	Whether the solid waste has been disposed properly?	Qualitative	EP4, EHS
		Whether the project discloses the solid waste emission information?	Quantitative	EHS
		Whether the waste water has been disposed properly?	Qualitative	EP4, EHS
		Whether the project discloses the waste water emission information?	Quantitative	EHS
		Whether the project's chemical and hazardous materials have been adequately handled?	Qualitative	EP4, EHS
		Whether the project takes measures to deal with or prevent soil pollution?	Qualitative	EP4, EHS
		Whether the project takes measures to deal with or prevent noise pollution?	Qualitative	EP4, EHS
		Whether the project takes measures to deal with or prevent light pollution?	Qualitative	EP4, EHS
	Environmental management	Whether a specific environmental risk management working group is set up for the project?	Qualitative	EP4
		Whether the project is environmentally aligned with policies?	Qualitative	EP4, GRI STANDARDS
		Whether the project discloses the environmental cost information?	Quantitative	GRI STANDARDS
		Whether the project effectively improves the surrounding environment?	Qualitative	EP4, EHS
	Supplier selection	Whether the project selects suppliers according to environmental standards?	Qualitative	EP4, GRI STANDARDS
		Whether the project takes measures to deal with the negative environmental impact related to the supply chain?	Qualitative	EP4, GRI STANDARDS
		Whether energy saving and environmental protection methods are adopted for material transportation?	Qualitative	EP4, GRI STANDARDS
		Whether the project's raw material used has the characteristics of low energy consumption, pollution-free, non-toxic, or other green properties?	Qualitative	EP4, GRI STANDARDS
	Bio-diversity	Whether the project protects biodiversity and environmental habitat?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project promotes sustainable management of living natural resources?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project takes measures to reduce the side impact on biodiversity (if there is)?	Qualitative	EP4, IFC Environmental and Social Performance Standards

	Employee	Whether the project discloses the local employee's number?	Quantitative	GRI STANDARDS
		Whether the project discloses the female employee's number?	Quantitative	GRI STANDARDS
		Whether the project protects vulnerable employees (such as women, disabled people, etc.)?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project respects employee diversity and provide equal opportunities?	Qualitative	EP4, GRI STANDARDS
		Whether the project provides relevant training for employees?	Qualitative	EP4, GRI STANDARDS
		Whether the project avoids forced labor?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project avoids child labor?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project supports employees' free association or collective bargaining (communication channels and mechanisms)?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project increases the local employment opportunities?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project provides employees with industrial injury compensation?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project provides social insurance for employees?	Qualitative	IFC Environmental and Social Performance Standards
	Health and safety	Whether the project cares about the employees' physical and mental health?	Qualitative	GRI STANDARDS
		Whether the project provides corresponding protection measures for employees during the construction?	Qualitative	EP4, EHS
		Whether the project's construction environment follows the safety related policies?	Qualitative	EP4, EHS
		Whether the project's transportation is ensured to be safe?	Qualitative	EP4, EHS
	Land acquisition and involuntary resettlement	Whether the project avoids involuntary immigration or forced eviction?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project takes compensation measures to mitigate the adverse effects caused by land acquisition?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project provides appropriate housing and services to improve the living conditions of relocated migrants?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project discloses information and communicate effectively before land acquisition and resettlement planning?	Qualitative	EP4, IFC Environmental and Social Performance Standards
	Local community	Whether the project has a positive impact on the development of surrounding communities?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project focuses on potential environmental and social risks related to the community?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project provides compensation to local communities if adverse effects cannot be avoided?	Qualitative	EP4, IFC Environmental and Social Performance Standards
	Cultural heritage	Whether the project avoids adverse side effects related to the local cultural heritage?	Qualitative	EP4, IFC Environmental and Social Performance Standards
	Stakeholders	Whether the project establishes a communication and participation mechanism for stakeholders?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project discloses to stakeholders in a timely and appropriate manner?	Qualitative	EP4, IFC Environmental and Social Performance Standards
	Aboriginal rights	Whether the project understands and respects the customs, culture, identity and lifestyle of the local indigenous people?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project is acceptable for local indigenous people?	Qualitative	EP4, IFC Environmental and Social Performance Standards
		Whether the project provides compensation to mitigate the side impact on indigenous people?	Qualitative	EP4, IFC Environmental and Social Performance Standards
	Human rights	Whether the project protects the legitimate rights or interests of all stakeholders?	Qualitative	EP4, IFC Environmental and Social Performance Standards

Project governance	Project planning and management	Whether the project has a clear life-cycle planning?	Qualitative	EP4
		Whether the project formulates rules or regulations?	Qualitative	EP4
		Whether the project there a clear mechanism for project organization, division of labor and coordination	Qualitative	EP4, GRI STANDARDS
		Whether the project employs a third-party professional organization to issue the environmental and social assessment report?	Qualitative	EP4
		Whether the project brings demonstration effect to similar projects?	Qualitative	EP4
		Whether the project regularly discloses relevant engineering information?	Qualitative	EP4, GRI STANDARDS
		Whether the project takes effective measures to avoid vicious competition?	Qualitative	EP4, GRI STANDARDS
	Technological innovation	Whether the project utilizes the company's independent R&D innovation technology?	Qualitative	GRI STANDARDS
		Whether the project discloses the technical cost information?	Quantitative	GRI STANDARDS
	Risk management	Whether the project is equipped with risk management mechanism?	Qualitative	EP4, GRI STANDARDS
		Whether the project has a special risk management department?	Qualitative	EP4
		Whether the project continuously tracks or monitors various risks?	Qualitative	EP4
		Whether the project has an environmental and risk management system?	Qualitative	EP4
	Contingency management	Whether the project has emergency plans or measures to deal with emergencies?	Qualitative	EP4

2. The industry-specific ESG self-checklist form

Since infrastructure construction is an important part of third-party market cooperation, a "The industry-specific ESG self-checklist form" is specially constructed for Chinese companies implementing infrastructure construction projects in third party cooperation. The industry-specific ESG self-checklist form adopts the indicators at all levels in the “General Guidelines for Industry Environment, Health, and Safety” system. It combines the characteristics of the three main “going overseas” infrastructure industries of communications, transportation, and energy. It refines the indicators to provide the industrial ESG self-examination reference.

Table 3 The industry-specific ESG self-checklist form

Major Industries	ESG	Main characteristic indicators	Qualitative/ Quantitative	Source
Communication	Environmental	Whether the base station's site selection and construction considers in the impact on the environment?	Qualitative	EHS
		Whether the project mitigates the environmental and ecological impacts caused by electromagnetic fields?	Qualitative	EHS
	Social	Whether the project provides safeguard measures for employees working at height?	Qualitative	EHS
		Whether the project compensates to reduce the negative impact of base station location on the community?	Qualitative	EHS
		Whether the project installs insulation devices to ensure employee's safety?	Qualitative	EHS
	Project governance	Whether there is grounding requirement for equipment installation?	Qualitative	EHS
Transportation	Environmental	Whether there is a unified fuel management?	Qualitative	EHS
		Whether the project discloses exhaust emission?	Quantitative	EHS
	Social	Whether the project protects pedestrian's safety?	Qualitative	EHS
		Whether the project protects road traffic safety?	Qualitative	EHS
		Whether the project takes preventive measures for the transportation of dangerous goods?	Qualitative	EHS
	Project governance	Whether the project carries out road maintenance regularly?	Qualitative	EHS
Energy	Environmental	Whether the project makes any response to energy leakage?	Qualitative	EHS
	Social	Whether the project provides protective measures for employees exposed to radiation?	Qualitative	EHS
	Project governance	Whether the project uses appropriate energy storage methods?	Qualitative	EHS
		Whether the project's important instruments meet the requirements?	Qualitative	EHS

3. The host entity ESG self-checklist form

Because the host country and third-party project partners have different focus on ESG indicators, this "The host entity ESG self-checklist form" is designed to assist the Chinese project executors in the pre-application and project planning stages to self-check whether they comply with the host

country or the relevant standards of the partner country. And this form also allows the project executors to regularly conduct self-inspection during the project implementation[4].

Table 4 The host entity ESG self-checklist form

Host country ESG self-checklist		
ESG	Main characteristic indicators	Source
Environmental	Whether the project is in line with the local environmental regulations of the host country?	Official website of the host country's relevant government environmental departments
	Whether the greenhouse gas emission of the project exceeds the standard?	International standards and host country standards
	Whether the solid waste discharge of the project exceeds the standard?	International standards and host country standards
	Whether the waste-water discharge of the project exceeds the standard?	International standards and host country standards
Social	Whether the project respect the culture, customs, and religion of the host country?	Check through the open channels
Project governance	Whether it is in line with the standards of the host foreign investment project?	Check the official website of the relevant government departments of the host country
	Whether it is in line with the industry standards of the host country?	Check the official website of the relevant government departments of the host country
Host enterprise ESG self-checklist		
Environmental	Whether the project's pollution discharge meet the standard?	Host Country's standards
	Whether the project manages the indirect pollutants and emission?	Host Country's standards
	Whether the project uses sustainable energy or new energy?	Host Country's standards
	Whether the project uses water cycle system?	Host Country's standards
	Whether the project produces noise pollution?	Host Country's standards
	Whether the project controls air quality?	Host Country's standards
	Whether the project focuses on biodiversity?	Host Country's standards

4 Note: Due to the high flexibility of the ESG indicators of the host country and the partner applied, this host entity ESG self-check form can only serve as general indicates. The specific key factors and indicators need to considered based on the characteristics of the third-party cooperation project, the cooperation project partners, the host country's relevant government environmental department or the international the latest requirements of the standard. If there are conflicts or mismatches among those standards above, this handbook suggests that higher standards, that is, international standards, shall prevail.

Social	Whether the project affects the local culture, customs, and religion?	Host Country's standards
	Whether the international and local employees are treated equally?	Host Country's standards
	Whether the project provides welfare and security for employees?	Host Country's standards
	Whether the project considers in the public participation?	Host Country's standards
	Whether the project contains the compensation mechanism?	Host Country's standards
Project governance	Whether the project meets the investment project standard?	Host Country's standards
	Whether the project meets the construction standards of infrastructure industry?	Host Country's standards
	Whether the project improves process and mechanism management?	Host Country's standards

(IV) ESG Dynamic Evaluation Methodology of Third-party Cooperation Project

This section innovates a DPSIR-ESG dynamic evaluation methodology, which aims to sort out a third-party cooperation project regarding ESG risks and provides a practical closed-loop risk management system.

The European Environment Agency (EEA) DPSIR model analyzes the interlinks between resources, environment, economy, society, etc. And the DPSIR-ESG dynamic evaluation method is an extension framework of the EEA's DPSIR cause-chain model, which innovated based on the International Institute of Green Finance (IIGF) years of ESG research. The model initial from human production and living activities on nature, which perceive as "Pressure", and clarifying the changes caused by "Pressure" on the natural environment interpret as "State". According to the causal chain logic, the "Impact" describes direct or indirect changes in the natural environment and human's corresponding prompt on shows as the "Response" procedure.

In the case of ESG impacts and risks are the key elements in third-party market cooperation projects implementation. The five steps DPSIR-ESG dynamic evaluation methodology "Driving Force-

Pressure-State-Impact-Response" aims to mitigate the gap and propose corresponding solutions.

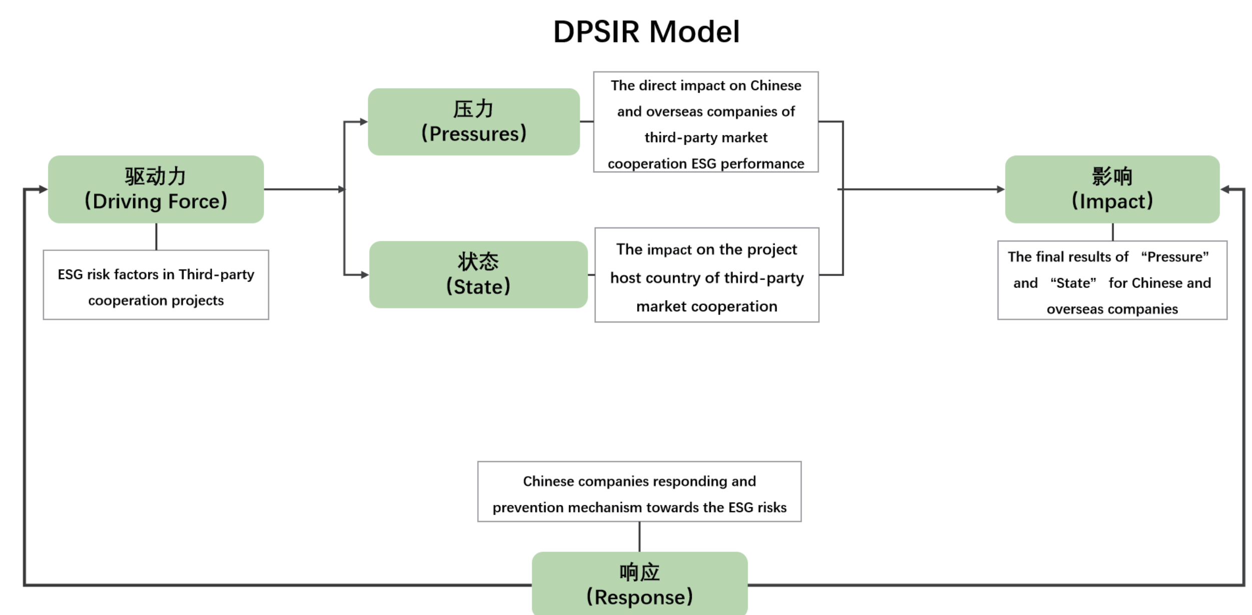

Figure 2 DPSIR-ESG Dynamic Model

1. Driving Force

Definition: ESG risk factors in Third-party cooperation projects.

Applicable to: Executors of third-party market cooperation projects (Chinese enterprises and overseas cooperative enterprises).

Referring to several international ESG indicators and project risk screening criteria, the driving force is an assessment process designed and conducted for third-party market cooperation projects. Driving force is to help the executors of third-party market cooperation projects measure environmental, social, and governmental risks during the project implementation process. From the environmental dimension, the project might not effectively address potential hazards such as extreme precipitation and sea-level rise, if climate risks are not adequately considered. From the social aspect, if the cultural heritage and the host country's communities lack consideration, the project might be terminated. In terms of governance, the lack of appropriate project management approaches might also result in duplicate work, a rise in potential conflicts, and decreased efficiency, as there is a confusion of rights and responsibility between the Chinese and foreign project executors.

Table 5 Main Indicators of "Driving Force"

Environmental	Environment-related risks (asset impairment risk, responsibility risk) Environment pollution (neutral pollution, reversible pollution, irreversible pollution) Climate risk (transition risk, physical risk) Biodiversity (direct effect, indirect effect, potential effect)
Social	Staff (expatriates' benefits, right and welfare of host country's employees) Supplier Customer Vulnerable group Local community Cultural heritage Stakeholders Land expropriation
Governance	Internal control of project Risk management Stakeholders Legislation risk Moral hazard

2. Pressure

Definition: The ESG performance of third party cooperation project impact on Chinese and overseas executors directly

Applicable to: Executors of third-party market cooperation projects (Chinese enterprises and overseas cooperative enterprises).

"Pressure" is the ESG risk captured by the "Driving Force" of the third-party market cooperation projects. It includes financial risks and reputation and credit risks for both Chinese and foreign project executors. Take the regulatory compliance requirements conducted by World Bank as an example. If the project does not disclose environmental or social information regarding the EHS guidelines during construction (or if the project management is fraudulent or corrupt), the project affiliates will be included in the World Bank's "Blacklist" and receive disciplinary action. Hence, the "pressure" transmission mechanism will directly result in a lower ESG rating and a lower market value for the project executors.

Table 6 Main Influencing of "Stress"

Chinese project executors	Finance- illegal fine, market value decrease, operating cost increase Reputation- social influence impaired Credit risk- included in cooperation blacklist, enterprise ESG rating downgrade
Overseas project executors	Finance- illegal fine, market value decrease, operating cost increase Reputation-social influence impaired Credit risk- included in cooperation blacklist, enterprise ESG rating downgrade

3. State

Definition: The third party cooperation project impact on the host country.

Applicable to: Project implementation place (host country community), Executors of third-party market cooperation projects (Chinese enterprises and overseas cooperative enterprises).

The "State" describes the environmental, social, and economic development impacts of a third-party market cooperation project on the host country. In terms of the environmental dimension, in the case of "carbon neutrality" realization, if the project does not set a greenhouse gas emissions control mechanism, the project's carbon emission might impair the effectiveness of carbon neutrality regards the host country. In the social aspect, project construction's negative impacts can quickly become a primary concern for economic and social development. For example, suppose the third-party market cooperation project does not fully integrate the benefits of local resources, such as lacking consideration in community job opportunities. It may lead to local industrial structure disorder, aggravate social conflicts, or deteriorate the business environment.

Table 7 Main Indicators of "Status"

Environmental	Environmental pollution (soil, air, water, noise, etc.) Excessive greenhouse gas emissions Habitat destruction Solid waste (hazardous waste)
Social	Poverty gap Job opportunities Educational equity Community impact Community stability
Economic Development	Technological development Financial market stability Business environment Industrial structure

4. Impact

Definition: The final results of "Pressure" and "State" for Chinese and overseas project executors.

Applicable to: Project implementation place (host country community), Executors of third-party market cooperation projects (Chinese enterprises and overseas cooperative enterprises).

"Impact" describes the ultimate transmission impacts and risks deriving from the "Pressure" and "State" on the Chinese and foreign project executor, which includes but is not limited to market risk, financing risk, and legal risk. Take the black-list case as an example, Chinese and foreign project executors not only will unable to access the World Bank's concessional loans but also stringent cooperation opportunities.

Table 8 Main Risks of "Impact"

Market Risk	Reduced market opportunities Strict cooperation requirements
Financing Risk	Limited financing channels Rising financing costs
Legislation Risk	Environmental compliance Socio-economic compliance Public policy Credit default Industry regulation

5. Response

Definition: Project executors responding toward project ESG risks.

Applicable to: Project implementation place (host country community), Executors of third-party market cooperation projects (Chinese enterprises and overseas cooperative enterprises).

The "Response" hereby offers solutions regarding ESG risks and impacts. The instrument would propose solutions to existing problems in the projects and prevent potential risk points in future third-party market cooperation. Taking examples of dealing with current issues during project implementation, the three parties involved in the project promotion may focus on different ESG indicators. Chinese project executor and related partners can actively cooperate with foreign companies to initiate ESG seminars or initiatives in the host country. From the perspective of preventing the ESG risks, joining UN PRI and standardizing corporate cognition with international standards, and implementing ESG basic requirements in all dimensions can fundamentally prevent deviations in project design and implementation.

Table 9 Main "Response" Initiatives

5.1 Chinese project executors strive to join the Principles for Responsible Investment (UN PRI) and optimize their corporate behavior in line with international ESG standards.
5.2 Chinese project executors proactively raise awareness of ESG concepts, provide training sessions, develop internal ESG implementation guidelines, and increase awareness and capacity to practice ESG from shareholders, management to employees
5.3 Developing ESG monitoring policies and management principles; Setting up regular tracking and feedback mechanisms
5.4 Chinese project executors incorporate ESG indicators into their operations and the entire process of project design, management, construction, operation and maintenance
5.5 Conducting regular information disclosure and risk presentation in conjunction with domestic and international ESG disclosure requirements
5.6 Chinese project executors incorporate ESG implementation awareness and capability into the performance appraisal of employees and management
5.7 Chinese project executors incorporate ESG into the selection criteria of third-party partner enterprises
5.8 Chinese project executors includes ESG in the selection criteria for procurement chain and other service providers
5.9 Regularly initiating or supporting ESG-related seminars or cooperation initiatives in host countries
5.10 Actively developing or introducing new green and low-carbon technologies
5.11 Introducing financial technology and scientific IT management
5.12 Developing ESG methodologies in specialist areas in collaboration with specialist think tanks

(V) Project Sustainable Process Management

This section indicated establishing an Environmental and Social risks management mechanism by structure external consultation and built a communication procedure, leveraging the third party cooperation project sustainable performance.

1. External consultation and communication mechanism

Chinese project executors' external consultation and communication mechanism include the main communication channels and methods with various stakeholders at different stages of the project, aiming to cover the whole life cycle risk analysis from early project planning, medium-term project construction, and late project operation. Multi-stakeholders include but are not limited to domestic regulatory authorities, cooperative executors, host country government, project implementation

affiliated enterprises and project employees, supply chain, local communities and residents of the project, etc. To promote sustainable implementation and management of projects with external supervision, building a dynamic communication mechanism can keep stakeholders in close contact timely.

Table 10 Main Communication Methods of Stakeholders at Different Project Phases

Key Stakeholders	Project Phase			
	Investment and Planning	Design and Construction	Commissioning and Operation	End and Repeal
Domestic Regulatory Authorities	Implementation of China's 14th Five-Year Plan	Regular business communication with counterpart departments	Work report; Project audit report	Project abolition plan and Audit report; Risk assessment and response mechanism
Project Partner	Strategic and investment cooperation agreement; Senior management business meeting	Periodic information submission; Compliance review		Thematic report meeting
Local Government	Strategic and investment cooperation agreement; Senior management business meeting	Periodic information submission; Compliance review		Thematic report meeting
Project Employees and Expatriates	Interest solicitation; Staff representative meeting	Training meeting；Soliciting rationalization proposals；Daily work communication		
Host Country Employees	Interest solicitation; Staff representative meeting	Training meeting；Soliciting rationalization proposals；Daily work communication		
Supply Chain	Bidding and tendering; Business negotiation	Contract execution；Business correspondence and communication		
Local Communities and Residents	Interest appeals and solicitation of opinions	Regular investigation, interview and communication；Employment guidance and training；Participate in local social welfare activities		Interest appeal and opinion collection
Owners and Clients	Visit and meeting communication	Contract execution; Correspondence between documents and correspondence; Evaluation and management		Interest appeal and opinion collection

Contractor	Bidding and tendering; Business negotiation	Contract execution; Business correspondence and communication	
Shareholders and Creditors	Project feasibility study report; General meeting of shareholders	Regular or interim reports; Project audit report	General meeting of shareholders; Investors meeting

2. Internal environmental and social risk management mechanism

As one of the significant tools in project management, the environmental and social management mechanism aims to screen, evaluate, and manage the potential impacts of the project on the environment and society aspects. This mechanism refers to clarifying management policies, implementation processes, and establishing a monitoring mechanism to evaluate the environmental and social performance of the whole life cycle of the project.

Table 11 Environmental and Social Risk Management at Different Phase of Project

Project Phase	Environmental and Social Risk Management
Investment and Planning	Collecting environmental and social information; Preliminary identification and classification of environmental and social risks; Project screening based on environmental and social risk analysis; Environmental and social compliance survey; Policy formulation of environmental and social management system and related department establishment; Third party evaluation and assessment of environmental and social impact; Incorporate environmental and social provisions into investment negotiations; Open consultation with various stakeholders.
Design and Construction	Periodically collecting and disclosing environmental and social information of the project; Conduct regular environmental and social compliance review and risk assessment; Incorporate environmental and social risks into construction decision making; Open consultation with various stakeholders; Conduct training and capacity building on environmental and social issues.
Commissioning and Operation	Periodically collecting and disclosing environmental and social information of the project; Conduct regular environmental and social compliance review and risk assessment; Open consultation with various stakeholders; Conduct training and capacity building on environmental and social issues.
End and Repeal	Environmental and social risk assessment of ending or abolishing links; Environmental and social information disclosure and project monitoring report; Open consultation with various stakeholders。

Applying internal environmental and social risk management mechanisms emphasizes the importance of environmental and social management procedures, environmental and social risk classification, organization arrangement, labor-management and training, monitoring and reporting, stakeholder participation and communication, complaint mechanism, information disclosure, etc.

In the early stage of investment and planning, the project executors need to carry out a large number of environmental and social risk analysis, build a negative screening list for the collection of environmental and social information, so as to complete risk identification and project classification procedure; meanwhile, the project executors need to improve the policies and management mechanisms related to the project environment and society. In the operation stage, it is necessary to establish regular environmental and social information disclosure and risk assessment mechanism, and set up public consultation with stakeholders. Last but not least, periodically issuing a monitoring and evaluation report on environmental and social performance of the project.

(VI) Framework and Process of ESG Information Disclosure

ESG information disclosure of the project is to deepen the cognition and implementation of ESG by project executors and stakeholders. This section clarifies the framework and process of ESG information disclosure at the project level, emphasizes strengthening communication with stakeholders, and enhancing the project's comprehensive practice at ESG dimensions.

ESG information disclosure and reporting system is an effective organizational capacity-building tool. On the one hand, it can facilitate project executors to record the implementation of ESG in the project cycle timely; on the other hand, it can stimulate external stakeholders to conduct third-party supervision on the project ESG performance.

ESG information disclosure is the prerequisite for the project implementer to establish a consultation mechanism with stakeholders. Only if the stakeholders fully understand the project implementation, the effectiveness of the consultation mechanism can only be realized. Therefore, the ESG information disclosure framework and process design of the project designated as below:

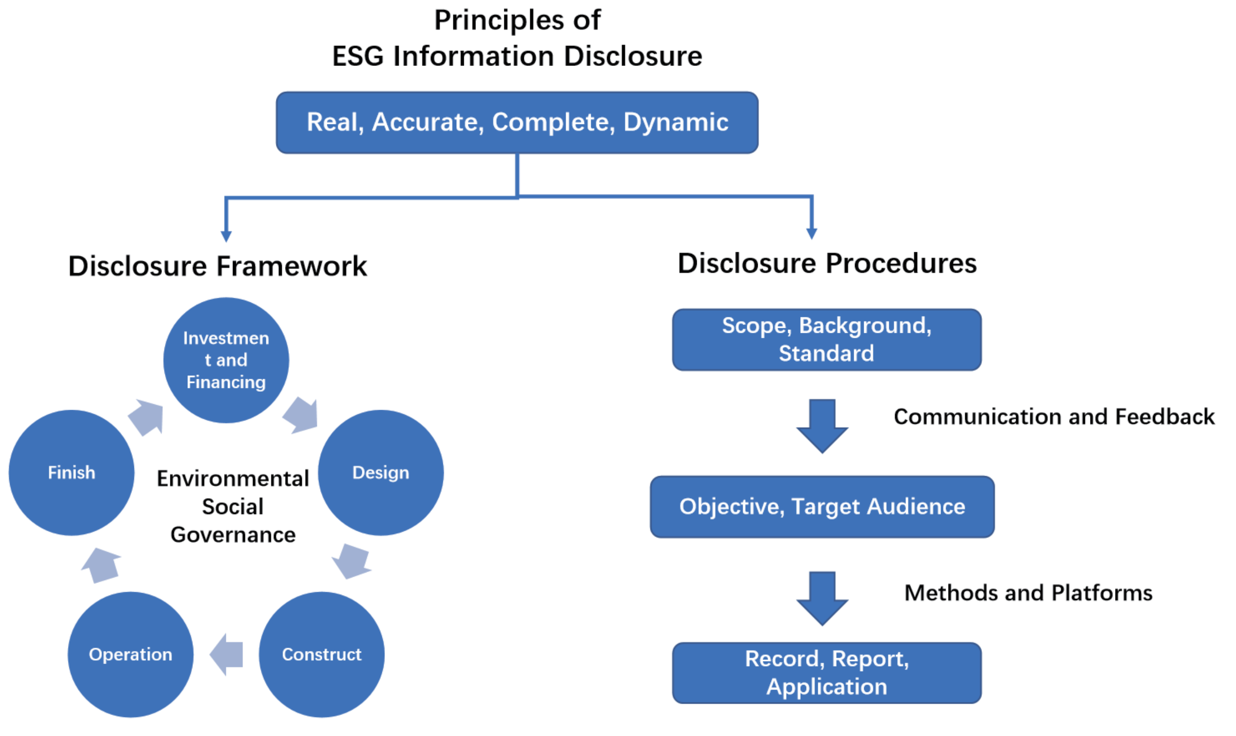

Figure 3 ESG Information Disclosure Framework and Process

ESG information disclosure of the project must ensure that the information disclosure is true, accurate, complete and timely, without mistake records, misleading statements and significant omissions, and keep the ESG information tracked and regularly updated during project implementation. Under the guidance of the disclosure principle, the project executors should systematically investigate and collect various ESG quantitative and qualitative information related to the project within the implementation process. The ESG information disclosure process of the project is constant to clarifying the scope, background and reference standards of information disclosure through communication and feedback with various stakeholders. Additionally, clarify the main purpose and target audience of ESG information disclosure report, specifically the reporting and publishing platform.

1. Scope, Format and Indicators

● Scope of information disclosure: the disclosure should thoroughly indicate the performance of ESG level in the whole life cycle of the project; the reporting time ranges should cover five stages as "Investment and Financing-Design-Construction-Operation-End and Repeal";

● Format and list of information disclosure: determine the format and list of information disclosure according to the non-mandatory provisions (such as guidelines and guidelines) and mandatory provisions (domestic/host country laws and regulations) of the project territory and relevant state departments, and in combination with international standards;

● Information disclosure standard: the project manager should determine ESG information disclosure indicators from the information disclosure list, and by full consideration of the project category, the phase of the project implementation, industry nature and the regional characteristics.

2. Objectives

● In order to facilitate the coherence of the project implementation and capital requirement, the objects setting should go through information screening, collection, classification and analysis;

● Ensure the information consists of internal and external stakeholders, accept external supervision to ensure the compliance of the project;

● Through continuous information disclosure and timely feedback, assist project managers better cope with external needs and risks from ESG aspects;

● Reflect the consistency between project practice and goal setting, promote the effective realization of sustainable development benefits in the whole life cycle of the project, and improve resource utilization efficiency;

● Enhance the competitiveness of Chinese project parties in international cooperation projects, including broadening financing channels and wining priority partner status;

● Provide support for the cooperation and complementary of all parties involved in the project, mitigate the risk derives from cultural and institutional differences in third-party cooperation projects, and help Chinese executors perceive reputation and positive influence in the international market.

3. Audience

Internal and external stakeholders are affected by the project and/or will have an impact on the realization of the goal. The project manager can dynamically adjust the content of ESG information disclosure according to the changes of stakeholders in different stages of the project.

● **Internal stakeholders:** including but not limited to enterprises directly involved in project design, construction and operation; such as contractors, subcontractors, suppliers, operators and supervisors;

● **External stakeholders:** including but not limited to indirect participants or affected parties of the project; such as government agencies, regulatory, non-governmental organizations (NGOs), media, the local community;

4. Record, Report and Use

● Report project progress and information update to stakeholders, and provide background information to support decision making;

● Provide the overall planning of the project and ESG objects, enhance the influence of the project and the reputation of project team;

● Provide ESG information and performance regarding the project, enhance the multi-party support in the process of project implementation;

● Introduce an independent third-party organization to verify and evaluate project ESG performance disclosure, and publicize the results;

● The project management agency should be disclosed on the official website or open channels in a timely manner if there are any significant changes in the sustainable governance system, pollution accidents and other information;

● Update ESG implementation guidelines of the project regularly, and record ESG risk identification and response experiences or cases.

5. Platform and Channel

● Establish a communication platform and supporting working mechanism for project social responsibility implementation, including but not limited to publicly publishing project impact reports, project ESG implementation tracking report through websites and media;

● Project executors can actively participate in international social responsibility platforms, including but not limited to United Nation Global Compact and Global Reporting Initiative, etc.

(VII) ESG Reporting Framework for Projects

Project ESG reporting is the act of collecting and publishing ESG information at all stages of the life cycle. The project should disseminate ESG information to various stakeholders and adjust the structure, format, and details of ESG releasing according to different stages' needs. Furthermore, third-party cooperative infrastructure projects' sustainable practice requires complementary functions and effective communication between the parties. The active disclosure of ESG information related to major issues is critical to resolving potential conflicts and achieving a balance of interests among the participants in the third-party cooperation process. Project managers may regularly disclose ESG information in conjunction with the operational manual on methodologies for dynamic evaluation of project ESG, sustainability process management mechanisms, and information disclosure frameworks, based on the following frameworks:

1. About this report

● Scope of reporting disclosure
● Basis of report compiling
● Report release cycle and release time
● Head of report compiling and contact
● Report release form

2. Project Profile

● The organization and implementation of the project during the reporting cycle (including organizational setup and responsibilities, input equipment and personnel, production management, technical management, quality management, financial management, publicity management, results management, confidentiality management, production safety management and etc.);

● The realization and progression status of the project's basic functions and the completion of the traditional objectives during the reporting cycle (project duration and quality control and etc.).

3. Vision and Plan

● Goal setting, planning, key actions, and main results of the project related to ESG during the reporting cycle, such as the carbon emission control objectives and completion of the project implementation during the reporting cycle;

●Existing planning guidelines and action plans of project participants relating to ESG practices during the reporting cycle, particularly referring to the new systems and strategies implemented during the reporting cycle;

● The project manager's responsibility setting and reporting route under the sustainability process management mechanism during the reporting cycle, the analysis and judgment of ESG related risks and opportunities, as well as the ESG related decisions and the management, supervision, and discussion of critical issues.

4. Assessment of major issues

● Clarify the relevance of international standards, ESG policies of the country and region of the project to the project and its possible impact on the project;

● Focus on the major stakeholders involved in the stage of the project reporting cycle by understanding the major ESG issues concerned by the stakeholders in the stage, and conducting relevant boundary analysis on the major issues;

● Describe the project's response to major ESG issues based on international standards, peer development and the major ESG issues from all stakeholder communication channels.

5. Organizational practices

● The actions taken by the project participants following the ESG Action Plan and the primary organizational practices during the reporting cycle;

● Whether the project organization respects local rule of law and international codes of conduct in carrying out ESG related practices;

● Review relevant actions and practices, and plan for the next improvement to avoid the lack of existing practices;

● Stakeholders should be encouraged to participate in ESG practices in multiple ways.

6. Influential factors

● The ESG related information and data involved in the project during the reporting cycle. For example, it includes project approval documents, feasibility study reports, project environmental assessment reports, energy conservation and emission reduction data, etc.

● The spillover effects of ESG actions and practices carried out by the project during the reporting cycle on organizations, industries, regions, and even countries, which require credible calculation methods to calculate the environmental, social, and governance implications of the ESG actions and practices of the project.

7. Risks and opportunities

● Identify, alarm, and manage potential ESG risks and opportunities for the project. For example, whether to establish a contingency plan for major environmental risk events and take corresponding measures to deal with possible environmental risk events.

● Integrate the process of identifying, assessing, and managing ESG associated risks and opportunities with the project's overall risk management.

● Critical ESG risk events and response measures taken during the reporting cycle.

8. Other relevant information

● The verification report of the information disclosed in the report by an independent third-party;

● ESG related project honors or awards during the reporting cycle;

● Certification of ESG related standards obtained by the project during the reporting cycle.

IV. ESG Suggestions for Chinese Enterprises in Developing Third-party Market Cooperation Projects

Based on the practice of Chinese project executors in developing third-party market cooperation projects, this chapter provides relevant suggestions at the ESG level to help Chinese project executors develop third-party market cooperation projects.

(I) Build a localized ESG indicator framework in line with international standards

According to 'Challenges faced by China in developing third-party market cooperation by adopting international standards' in chapter II, the current international ESG standard neglects China' s national conditions and is not fully applicable to Chinese project executors. Therefore, based on the status quo of some certain differences between international ESG and Chinese ESG standards, Chinese government and regulatory authorities should consider the actual development situation of projects executors and construct the ESG methodology as well as the indicator system with Chinese characteristics which meet the international requirements and are applicable to third-party market cooperation. It would provide self-inspection standards and information disclosure framework for Chinese project executors when launching third-party market cooperation projects. In the meantime, it would effectively solve the problem of lack of ESG methodology in current projects and difficulty in constructing an information disclosure framework. First of all, under the framework of international ESG standards, based on the perspective of Chinese project executors' development, localized characteristic indicators are set in light of the stage of China's social and economic development and the characteristics of the capital market[5]. Therefore, the indicators will provide

5 The construction of a localized ESG system in China still follows the international ESG standards and frameworks, but only adjusts the indicators that are not applicable to Chinese market and build an indicator system with local characteristic which is more in line with China's needs and better measures Chinese enterprises and the Chinese market.

more objective criteria for global project cooperation and communication in the context of more profound and more frequent international collaboration. Secondly, concerning differences in market-entry requirements, technical standards, and management models between the two parties' countries, the ESG indicator framework based on international standards will help both parties deepen their understanding and form a synergy, facilitating the launching of specific projects with the solid cooperative relationship. Finally, this set of standards will also consider the legal norms, industry standards and other hard standards of the project, and the soft requirements of culture, environment and society, to provide corresponding guarantees for the firm implementation of the project in the host country. For example, in many international standards, such as the *Equator Principles* and the *Environmental and Social Sustainability Performance Standards*, there are corresponding indicators for human rights. However, considering China's national conditions and stage of social and economic development, the main goal at present is still to guarantee the basic survival, development and equal rights of the people. Although there is no explicit 'human rights' criterion in the ESG standard of China, the content related to human rights has been broken down and reflected in relevant indicators such as poverty alleviation, charity, rural revitalization and other standards. Only when standards with Chinese characteristics are incorporated into the framework of international standards and presented in a way that is more understandable to Chinese projects can relevant standards be better applied in China.

(II) Improve the relevant ESG supporting measures to form long-term support mechanisms

According to 'Challenges faced by China in developing third-party market cooperation by adopting international standards' in chapter II, Chinese project executors are in lack of facilities for sustainable development of third-party market cooperation projects. In order to make ESG further play a supportive role when launching the third-party market cooperation projects, all stakeholders should collaborate and jointly build a platform including ESG information sharing, project docking, and databases of ESG projects and ESG enterprises in the host country, eventually forming a long-term supportive mechanism for Chinese enterprises to carry out third-party market cooperation projects. On the one hand, by building an ESG information exchange and docking platform covering stakeholders such as regulatory authorities, project executors of both parties, host governments of projects, inter-industry associations, think tanks of third-party, etc., multiple parties are able to share information about ESG-related system regulations, industry policies, project executors and project dynamics, ESG risk points and other aspects. The actions above will facilitate portraying a detailed cooperation roadmap for the development of third-party market cooperation projects to ensure the smooth implementation of the project. On the other hand, with the establishment and improvement of the ESG project database of third-party countries and with the selection of key projects around the sustainable development of the third-party market, the mutual recognition and exchange of ESG standards and projects within the region will be formed. Under this framework, the development of sustainable development-related projects is the main starting point. The list of ESG projects is dynamically updated. A mechanism platform for project information collection, follow-up, and docking is established to provide effective information for third-party market cooperation.

(III) Fully utilize ESG investment to hedge risks and to alleviate the financing burden

As ESG investment gradually becomes the mainstream internationally, project executors should further strengthen their awareness of ESG investment, employ ESG investment to broaden financing channels and hedge non-systematic risks to ease the financial pressure on projects. Also, the ESG concept can help enterprises apply ESG investment and management into corporate development

strategy through the whole process of third party project to deal with the ‘limited understanding of ESG concept for project executors’ in chapter II. For example, powerful fund support and reduction in project credit risk can be achieved by establishing third-party market ESG investment funds through cooperation, creating new financial support models, optimizing and integrating resources, strengthening multi-party cooperation and improving capital efficiency. While strengthening cooperation with domestic policy and development financial institutions, project executors can actively carry out exchanges with international or regional financial institutions such as the World Bank, International Finance Corporation, Asian Development Bank, etc. Furthermore, the enterprises can strengthen cooperation with social capital under the guidance of government policies and can construct projects around the key areas of sustainable development in the host country, such as infrastructure construction, environmental protection industry, and new energy through the establishment of a third-party market ESG investment fund based on the principle of "governmental guidance, enterprise management and market operation." Through the combination of equity and debt, it provides financial support for Chinese and foreign enterprises to carry out project cooperation and the implementation of projects in the field of sustainable development in the host country, improve the sustainable operation and management capabilities of the project, and achieve effective unity of project environmental benefits, social benefits, and economic benefits.

(IV) Strengthen international communication and collaboration and form up a long-term partnership

Chinese project executors should carry out ESG exchange activities around the world, hold ESG forums, seminars, etc., cooperate closely with partner-enterprises, international financial institutions and other parties, and use the constantly updated ESG concepts and methodologies to integrate multi-party resources to establish the long-term partnership with third-party and therefore realize a strong alliance. Although Chinese project executors have rich practical technology and experience in project implementation, ESG planning and practice are still below the international standard. On the other hand, partner enterprises (mostly developed countries) have rich ESG practical experience and have certain advantages in resource network, management structure, global business layout,etc. International financial institutions rely on their ESG standards to form a complete ESG guidance framework, leading in environmental protection, social responsibility, business compliance, financial resources. Moreover, international financial institutions are also good at international market cooperation and cross-cultural communication and integration. By guiding and strengthening ESG exchanges and cooperation between all parties, it is possible to break market barriers, accomplish effective integration of multi-party ESG resources and capabilities, achieve complementary advantages, and further deepen and widen the range of cooperation on the third-party market in a more inclusive way through synergies.

(V) Focus on the training program in the areas of ESG and Third-party market cooperation

Chinese project executors should focus on cultivating professional management talents in the ESG field and third-party market cooperation to solve the problem with lack in facilities for sustainable development of third-party market cooperation projects according to 'Challenges faced by China in developing third-party market cooperation by adopting international standards' in chapter II.. On the one hand, Chinese project executors should actively conduct academic cooperation with higher education institutions in the project partner's and host countries. The project executors should provide more market-oriented ESG practices, and institutions should cultivate professional talents and share ESG achievements through ESG discipline construction. Furthermore, through the joint study of third-party market cooperation from the perspective of ESG, both parties can explore the

path for enterprises to support the development of third-party market countries with ESG. On the other hand, Chinese project executors should also actively organize a team specialized in national relations and sustainable development within the whole organization. This team will dedicate to tracking and researching domestic and foreign macro policies and industry standards, strengthening the interpretation and training of international standards to avoid misunderstanding of key indicators. While integrating the business activities, the Chinese project executors can sort out the relevant policies for foreign investment projects of the host country, assess project risks, and train professional talents with sustainable development capabilities and awareness for the implementation of third-party market cooperation projects.

(VI) Employing third-party market cooperation as a bridge to help multi-parties to achieve carbon neutrality

According to 'Challenges faced by China in developing third-party market cooperation by adopting international standards' in chapter II, the concept of high-quality development represented by ESG has not been clearly implemented in the whole process of project development.In the context of the green recovery in the late stage of the epidemic and the gradual advancement of global carbon neutrality, ESG, as an important supporting support for achieving the goal of carbon neutrality, will employ third-party market cooperation projects as a carrier to promote the carbon neutrality process of Chinese project executors, partner enterprises and the host country. Many Chinese state-owned enterprises have shown their enthusiasm to assume environmental and social responsibilities and take the initiative to incorporate carbon neutrality into their corporate strategic goals. Chinese project executors can also incorporate carbon neutrality and ESG concepts into project planning when developing third-party market cooperation projects. Based on the perspective of sustainable development, Chinese project executors can help the project meet the expectations and requirements of all stakeholders as well as achieve carbon neutrality performances such as energy conservation, emission reduction, and environmental protection during the implementation of the project. For the enterprises of both parties, ESG can effectively and comprehensively measure the sustainable development ability of the project in responding to climate change and achieving the carbon neutrality goal, and then provide the basic conditions for the realization of the enterprise's own carbon neutrality goal. For the host country, by introducing more professionally managed sustainable projects and increasing the application of green technologies and innovative products, it will also carry out ESG action goals with a more straightforward implementation path and help the country realize the vision of carbon neutrality.

Appendix 1: International Finance Corporation (IFC) *Environmental and Social Sustainability Performance Standards*

(1) Main Content

International Finance corporation (hereinafter referred to as IFC) was established in 1956 as the private branch sector of the World Bank Group. In order to solve the financing problem related to environment and society, IFC has constructed the *Environmental and Social Sustainability Performance Standards* (hereinafter referred to as Performance Standards) to assess, control and manage the environmental and social risks of business activities or projects, based on the World Bank's Environmental and Social Standards. The Performance Standards define the roles and responsibilities of enterprises when managing environmental and social risks, as well as the basic conditions to continuously acquire IFC funding. It can guide and help enterprises to identify, avoid, mitigate and manage risk and the corresponding impact, while enhancing stakeholders' participation in the disclosure of relevant information and realizing sustainable operations.

(2) Features

As a private branch sector of the World Bank, IFC focuses on developing countries and encourages international capital flows to developing countries to improve SMEs' development by strengthening the cooperation with the private sector, using IFC's financial resource, technical specialty and global experience. IFC sets up some more flexible and independent policies and standards while inheriting the related environmental and social policy of the World Bank. The *Environmental and Social Sustainability Performance Standards* has some following traits:

● Constantly updating and assessing the framework of sustainable development.

● Encouraging stakeholders to engage in the process of setting up and updating related policies and standards actively.

● Having a clear information disclosure policy to guarantee the transparency of investment activities.

● This standard should be applied to all kinds of business activities in different industries around world.

(3) Application in Practice

According to the statistics from IFC official website, since 1956, IFC has provided over 285 billion dollars financing for enterprises in developing countries, involving industries across agroforestry, education, financial institutions, infrastructure, manufacturing, health and others. In 2018 Only, IFC has invested $16.6 billion in 366 projects. In addition, IFC also exerts important impact on more than 40 loan institutions' (mainly commercial bank) environmental and social standards by using Equator Principles.

As for China, IFC is the first international organization which helps Chinese government establish and modify the policy of green credit. Besides, IFC also stays in close coordination with Chinese regulatory departments and banks and further supports the sustainable reform of Chinese financial industry. The environmental and social work developed by IFC in China mainly concentrates on two areas:

● On the national policy level, IFC supports the green credit policy of Chinese government, assisting them to construct supervision framework of sustainable finance;

● On the banking level, IFC develops the strategic consulting on the basis of Equator Principles and

provide resource for banks to improve staff capability and training. Besides, IFC also signed memos with the Export-Import Bank of China, helped them to better improve staff capability, establishing policies regarding overseas investment, especially the related environmental and social policy in Africa aiming to control the related risks.

Key Performance Standards	Objectives
Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts	● To identify and evaluate environmental and social risks and impacts of the project ● To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, Affected Communities, and the environment. ● To promote improved environmental and social performance of clients through the effective use of management systems. ● To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately ● To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.
Performance Standard 2: Labor and Working Conditions	● To promote the fair treatment, nondiscrimination, and equal opportunity of workers. ● To establish, maintain, and improve the worker-management relationship. ● To promote compliance with national employment and labor laws. ● To protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the client's supply chain. ● To promote safe and healthy working conditions, and the health of workers. ● To avoid the use of forced labor.
Performance Standard 3: Resource Efficiency and Pollution Prevention	● To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities. ● To promote more sustainable use of resources, including energy and water. ● To reduce project-related GHG emissions.
Performance Standard 4: Community Health, Safety, and Security	● To anticipate and avoid adverse impacts on the health and safety of the Affected Community during the project life from both routine and non-routine circumstances. ● To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities.

Performance Standard 5: Land Acquisition and Involuntary Resettlement	● To avoid, and when avoidance is not possible, minimize displacement by exploring alternative project designs. ● To avoid forced eviction. ● To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost4 and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. ● To improve, or restore, the livelihoods and standards of living of displaced persons. ● To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.
Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	● To protect and conserve biodiversity. ● To maintain the benefits from ecosystem services. ● To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.
Performance Standard 7: Indigenous Peoples	● To ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples. ● To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimize and/or compensate for such impacts. ● To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner. ● To establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle. ● To ensure the Free, Prior, and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples when the circumstances described in this Performance Standard are present. To respect and preserve the culture, knowledge, and practices of Indigenous Peoples.
Performance Standard 8: Cultural Heritage	● To protect cultural heritage from the adverse impacts of project activities and support its preservation. ● To promote the equitable sharing of benefits from the use of cultural heritage.

Source: IIGF, the IFC official website

Appendix 2: International Finance Corporation (IFC) *Environmental and Social Management System (ESMS) Implementation Manual*

(1) Main Content

To help companies develop and implement environmental and social management systems to improve their overall operations, IFC has developed *Environmental and Social Management System (ESMS) Implementation Manual* (hereafter referred to as *the ESMS Implementation Manual*) to guide companies in integrating environmental and social related rules as well as objectives into their core business operations. ESMS uses the Plan-Do-Check-Act (PDCA) cycle to help companies assess and control risks and to continually review, revise and improve the system. ESMS has nine core elements, including policy, identification of risks and impacts, management options, organizational capability, emergency preparedness and response, stakeholder engagement, external communication and complaints, ongoing reporting to affected communities, monitoring and review. Besides, in the supporting document, the Environmental and Social Management System (ESMS) Toolkit, it further provides a checklist for the enterprise's policy description to ensure that the enterprises' environmental and social policies have fully considered all relevant issues (see Appendix 3 for more details).

(2) Features

On the one hand, the implementation of an environmental and social management system (ESMS) can generate direct business benefits. For example, energy saving and more efficient use of energy and raw materials can help to reduce production costs. Reducing waste and pollution emissions and recycling can reduce waste disposal costs. In addition, converting certain organic waste into fuel or energy to maximise the environmental sustainability of the business also reduces costs to some extent. Management systems can help companies to benchmark their expenditure against industry standards and uncover the potential to reduce production and operating costs. On the other hand, an Environmental and Social Management System (ESMS) takes full account of the risks and challenges posed to companies by increasing energy and raw material costs, the growing power and influence of environmental and labour regulators, and the growing concern of consumers about environmental and social issues. By bringing together separate systems for corporate quality control, occupational health and safety, and environmental management, it can help companies implement an integrated environmental and social management system commensurate with their size and nature.

(3) Application in Practice

At the application level, the key factors to be considered by companies in establishing a sound risk assessment system include: the need to include all aspects of environmental, occupational health and safety, workforce and community risks; regular assessments, at least annually; new assessments when there are important changes in business operations; new assessments when there are important external changes (such as the introduction of new laws and regulations); listening to employees at all levels and management; listening to affected communities and other external stakeholders; using external consultants and experts if our own personnel do not have the relevant competencies; assessing risks and prioritizing risks in terms of both their probability of occurrence and the severity of their negative impact; linking monitoring plans to priority risks; considering not only risks in enterprises but also those in the supply chain; adjust risk assessment to the size and complexity of the enterprise's business and etc. The IFC also publishes a publication entitled "The IFC's Risk Assessment", which is based on the size and complexity of the enterprise's business. The IFC has also published an *ESMS Self-Assessment and Improvement Guide*, which provides a self-assessment rating methodology for each ESMS element and allows companies to determine the current level of development and implementation of the system, and to rate each element on a scale of 0-5 being the

highest) to measure the maturity of the system.

Elements	Main Content
Policy	The cornerstone of the ESMS is the set of policies. The policies summarize the commitment that company has made to managing environmental and social risks and impacts. They establish the expectations for conduct in all related aspects of the business.
Identification of Risks and Impacts	The primary objective of a risk assessment is to identify the potential negative environmental and social risks so that you can develop the appropriate strategies to address the risks and their potential impacts.
Management Programs	Management Programs are centered on Action Plans and improved procedures to avoid, minimize or compensate for the risks and impacts that were identified.
Organizational Capacity and Competency	Senior management support is critical to implementing a sustainable ESMS. An ESMS Team should include knowledgeable professionals from environment, health and safety, operations or production, contracts and purchasing, human resources. All levels of the company are trained and engaged – multiple units and workers as well as managers.
Emergency Preparedness and Response	Regular engagement with local community and government for onsite and offsite emergency plan. Formal resource-sharing agreements with neighboring companies. Being prepared to respond effectively to prevent and minimize any harm to your workers, community and the environment.
Stakeholder Engagement	Stakeholder engagement is part of regular activities. Awareness and engagement at senior levels. They have a stake in your company's financial, environmental and social performance
External Communications and Grievance Mechanisms	External Communications and Grievance Mechanisms is an important way to respond to and manage external issues and complaints, and will have significant implications for how the business is perceived and, possibly, whether or not it succeeds.
Ongoing Reporting to Affected Communities	There is ongoing communication to avoid risks and impacts before new projects. Let affected communities know what actions company has put in place to resolve the issues identified when engaging with them.
Monitoring and Review	Monitoring and Review is the process to check and adjust the ESMS system.

Source: IIGF, the Environmental and Social Management System (ESMS) Implementation Manual

Appendix 3: International Finance Corporation (IFC) *Environmental and Social Management System (ESMS) Toolkit* – Comparison Table for Enterprises' Policy Description

Environment	
Environment	Environmental laws and regulations
	Resource utilization efficiency (energy, water, important input materials, etc.)
	Greenhouse gas (GHG) emissions
	Release of pollutants into air, water, and land
	Handling, storage, and disposal of hazardous chemicals
	Hazardous and non-hazardous wastes
	Recover, reuse, treatment, and proper disposal of waste
	Consideration of non-chemical means to control economically significant pests and vectors
	Conversion of forest lands or wetlands
Labor and Working Conditions	
Human resources policies and procedures	Documented labor policies and procedures
	Clear communications throughout the company
Working conditions and terms of employment	Respect of collective bargaining agreement, if applicable
	Reasonable working conditions and terms of employment (e.g. compensation, benefits)
	Protection for migrant, contract or temporary workers
	Clean and appropriate accommodations, if applicable
Workers' organizations	Workers' rights to form and to join workers' organizations
	No discrimination against those who organize
Non-discrimination and equal opportunity	Non-discrimination in hiring, promotion and compensation practices
	Training, tools and opportunities for advancement
	Freedom from harassment by management or other workers
	Remedy for past discrimination
Retrenchment	Consideration of alternatives and mitigation in case of retrenchment
	Payments and benefits in compliance with national law
Grievance mechanism	Transparent process for receiving and resolving worker complaints
	No retaliation or discrimination
Child labor	Minimum age for employment
	Conditions for engagement of young workers
Forced labor	Freedom of movement, freedom to resign
	No retention of identification papers or money to detain workers
Occupational health and safety	Safe work environment and dormitories, if applicable
	Emergency prevention and response system
	Personal protective equipment and appropriate training
	Documentation and reporting of accidents, near misses, and illnesses
	Appropriate use of potentially hazardous chemicals in accordance to Material Safety Data Sheets (MSDS) and International Chemical Safety Cards (ICSC).
Workers engaged by third parties	Extension of labor policies to labor contractors, recruiting agencies and other third parties
	Grievance mechanism for contracted workers
Supply chain	Extension of policies and monitoring of supply chain with respect to child labor, forced labor and worker safety to supply chain
Community Health, Safety and Security	
Community Health and Safety	Consumer product safety
	Health and safety of the public related to company activities
	Health and safety of the public related to the construction, operation, and decommissioning of equipment and infrastructure
	Downstream impacts related to wastewater disposal
	Potential community exposure to hazardous materials and substances
	Transportation and disposal of hazardous wastes
	Impact on ecosystem services on which communities rely
	Impact on land ownership through acquisition and resettlement
	Community exposure to water-borne, vector-borne and communicable diseases associated with company activities
	Communicable diseases associated with the influx of temporary or permanent project labor
	Emergency situations caused by company activities, equipment and infrastructure
	Excessive or unregulated vehicle traffic near the facility and through communities
Security personnel	Appropriate screening, training, equipping and monitoring of direct or contracted workers providing security services
	Grievance mechanism for workers and the community to express concerns about the security system and personnel
	Investigation of allegations of past abuse

Source: IIGF, based on the Environmental and Social Management System (ESMS) Toolkit

Appendix 4: *Equator Principles* 4's Main Framework

(1) Main Content

The Equator Principles (EPs) is financial sector benchmarks in accordance with IFC and World Bank policies and guidelines. It aims to provide financial institutions with a common framework to identify, assess and manage environmental and social risks when offering financing for projects, which also serves as a screening reference in supporting responsible and sustainable investment and financing descion-making. The Equator Principles was organized and managed by the Equator Principles Association (EPA) to align with the relevant regulatory guidelines. In June 2003, the EPs was officially published and implemented for the first time. On July 1st, 2020, Equator Principles 4.0 ("EPs4") came into force. Compared with the previous version, EPs4 revisions mainly evolved new indicators with international emission reduction targets, paying attention to climate change and greenhouse gas emissions disclosure and enhancing environmental and social risk management. The Equator Principles framework proposes ten principles, which including review and classification, environmental and social assessment, applicable environmental and social standards, environmental and social management systems and action plans for the EPs, stakeholder participation, complaint mechanisms, independent review, committed provisions, independent monitoring and reporting, and reporting and transparency.

Principles	Contents
Principle 1: Review and Categorization	The EPFI will categorize the Project into category A, B &C based on the magnitude of potential environmental and social risks and impacts, including those related to human rights, climate change, and biodiversity.
Principle 2: Environmental and Social Assessment	The EPFI will require the client to conduct an appropriate Environmental and Social Assessment process. For Category A and, as appropriate, Category B Projects, the Assessment Documentation includes an Environmental and Social Impact Assessment (ESIA).
Principle 3: Applicable Environmental and Social Standards	The Assessment process should, in the first instance, address compliance with relevant host country laws, regulations and permits that pertain to environmental and social issues.
Principle 4: Environmental and Social Management System and Equator Principles Action Plan	For all Category A and Category B Projects, the EPFI will require the client to develop and/or maintain an Environmental and Social Management System (ESMS). Further, an Environmental and Social Management Plan (ESMP) will be prepared by the client to address issues raised in the Assessment process and incorporate actions required to comply with the applicable standards. Where the applicable standards are not met to the EPFI's satisfaction, the client and the EPFI will agree to an Equator Principles Action Plan (EPAP).
Principle 5: Stakeholder Engagement	For all Category A and Category B Projects, the EPFI will require the client to demonstrate effective stakeholder engagement, as an ongoing process in an appropriate manner. For Projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation process.
Principle 6: Grievance Mechanism	For all Category A and, as appropriate, Category B Projects, the EPFI will require the client to establish effective grievance mechanisms which are designed for use by affected communities and workers.
Principle 7: Independent Review	For all Category A and, as appropriate, Category B Projects, an Independent Environmental and Social Consultant, will carry out an Independent Review of the Assessment Documentation in order to determine the Equator Principles compliance of Projects. For other Category B projects, any due diligence may be taken into account to determine whether an Independent Review is required.
Principle 8: Covenants	An important strength of the Equator Principles is the incorporation of covenants linked to compliance. For all Projects, where a client is not in compliance with its environmental and social covenants, the EPFI will work with the client on remedial actions to bring the Project back into compliance.
Principle 9: Independent Monitoring and Reporting	For all Category A and, as appropriate, Category B Projects, the EPFI will require independent monitoring and reporting. Monitoring and reporting should be provided by an Independent Environmental and Social Consultant.
Principle 10: Reporting and Transparency	Corresponding requirements for client reporting requirements and EPFI reporting requirements

Source: IIGF, based on the official website of Equator Principles

Besides, based on the International Finance Corporation's (IFC) environmental and social categorization process, the Equator Principles classify projects into three categories based on the potential environmental and social risks:

Category	Criteria
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;
Category C	Projects with minimal or no adverse environmental and social risks and/or impacts;

Source: IIGF, Equator Principles official website

The Equator Principles are applied in the following five categories:

Type of Project	Scope of Application
1.Project Finance Advisory Services	total Project capital costs are US$10 million or more;
2.Project Finance	total Project capital costs of US$10 million or more;
3.Project-Related Corporate Loans	i. The majority of the loan is related to a Project over which the client has Effective Operational Control (either direct or indirect); ii. The total aggregate loan amount and the EPFI's individual commitment (before syndication or sell down) are each at least US$50 million; iii. The loan tenor is at least two years;
4.Bridge Loans	with a tenor of less than two years that are intended to be refinanced by Project Finance or a Project-Related Corporate Loan that is anticipated to meet the relevant criteria described in 2 and 3 above;
5.Project-Related Refinance and Project-Related Acquisition Finance	i. The underlying Project was financed in accordance with the Equator Principles framework; ii. There has been no material change in the scale or scope of the Project; iii. Project Completion has not yet occurred at the time of the signing of the facility or loan agreement;

Source: IIGF, Equator Principles official website

(2) Features

The Equator Principles require that the company's environmental and social responsibility performance be used as the criteria for credit allocation and selection when project financing. In this way, on the one hand, it can effectively reduce the credit risk of financial institutions and avoid credit losses caused by the closure of the supported projects due to violations of regulations and laws. Moreover, it can also force companies and industries to further improve environmental protection and labor protection through credit leverage.

Since the EPs was promulgated, the EPA has revised the document several times to ensure that the EPs has keep pace with the times, align with other international standards in a timely manner, and provide best practice standards for member banks as they continue to evolve and update. In the revision of EPs4, it proactively strengthens the links with international emission reduction targets such as the Paris Agreement, Nationally Determined Contributions (NDCs) and the Task-Force on Climate Related Financial Disclosures (TCFD), requiring financial institutions to proactively engage and strengthen the management of environmental and social risks of projects. For the banking industry, since the EPs concretize environmental and social criteria in project finance, it provides effective methodological and instrumental guidance for environmental and social risk management.

(3)Application in Practice

As a set of voluntary standards applicable to project-related financing loans in various countries and industries around the world, the EPs4 covers most international project financing debts in developed and emerging markets. According to the official website of the EPs, as of March 2021, a total of 116 financial institutions in 37 countries and regions around the world have formally adopted the Equator Principles framework, including a variety of financial institutions and organizations such as commercial banks, financial groups, export credit agencies, and developmental financial institutions.

It is noteworthy that, among these EPs members, seven financial institutions in China have adopted the Equator Principles standard, namely Industrial Bank, Bank of Jiangsu, Huzhou Bank, Chongqing Rural Commercial Bank, Mianyang Commercial Bank, Guizhou Bank and Bank of Chongqing. As the number of Equator banks in China increases, the green projects and green awareness they support also demonstrate a model for the sustainable development of other financial institutions in China.

Appendix 5: Main Indicators in World Bank's *Environment, Health and Safety (EHS) Guidelines*

(1) Main Content

Taking the World Bank's Environment and Society Framework as a guiding document, the World Bank has developed the Environment, Health and Safety (EHS) Guidelines, including the General Guidelines on Environment, Health and Safety (EHS) (hereinafter referred to as the General Guidelines) and the Specific Sectoral Guidelines on Environment, Health and Safety (EHS) (hereinafter referred to as the Sectoral Guidelines), which aim to promote environmental and social sustainability development. The General Guidelines require an organized and hierarchical approach to environmental, health and safety considerations in a enterprise or project process. It takes four major areas into consideration: environment, occupational health and safety, community health and safety, project construction and project demolition.

Under the framework of General Guidelines, the World Bank has developed refined industry indicators, which fully considered the characteristics and business model of different industries. Additionally, the Sector Guidelines cover 62 sub-industries in 8 major industries, including forestry, infrastructure, agriculture and food production, oil and gas, manufacturing, chemicals, mining, and energy. Among of which, there are a total of 14 industries involved in infrastructure construction.

(2) Features

As technical reference documents, the World Bank's General Guidelines and Sector Guidelines are standards for practical application and need to be used together to guide the implementation of projects on the ground. The former mainly provides solutions to potential general environmental, health, and safety-related issues in all industries, while the latter provides a more detailed EHS

framework for specific industries, and when it comes to more complex projects, multiple industry guides need to be consulted for comprehensive consideration. This set of guidelines has two main characteristics, where the first is its strong operability. In view of the uneven development level of the World Bank member countries, the guidelines usually adopt indicators and measures that can be achieved with reasonable cost and existing technology. To tackle the same type of problem, the guide provides different solutions so that companies can adopt them according to their actual conditions. The second is about its wide range of concerns, including both a vast range of industries and a wide distribution of hazards.

(3) Application in Practice

When applying the EHS Guidelines, specific target indicators (for the project or site) need to be developed, and appropriate timelines for compliance need to be set. At the same time, each project's risks need to be addressed flexibly based on the results of the environmental assessment. In addition, site-specific variables such as host country specifics, environmental absorption capacity, and other factors of the project need to be taken into account. Ultimately, the decision as to whether specific technical recommendations apply should be made by qualified and experienced professionals. When host country rules differ from the indicators and measures specified in the EHS Guidelines, the more stringent of the two should be selected; if a lower standard is used, a detailed description is required in the environmental assessment.

Main Indicators	Related Secondary Indicators
1. Environmental	1.1 Air Emissions and Ambient Air Quality
	1.2 Energy Conservation
	1.3 Wastewater and Ambient Water Quality
	1.4 Water Conservation
	1.5 Hazardous Materials Management
	1.6 Waste Management
	1.7 Noise
	1.8 Contaminated Land
2. Occupational Health and Safety	2.1 General Facility Design and Operation
	2.2 Communication and Training
	2.3 Physical Hazards
	2.4 Chemical Hazards
	2.5 Biological Hazards
	2.6 Radiological Hazards
	2.7 Personal Protective Equipment (PPE)
	2.8 Special Hazard Environments
	2.9 Monitoring
3. Community Health and Safety	3.1 Water Quality and Availability
	3.2 Structural Safety of Project Infrastructure
	3.3 Life and Fire Safety (L&FS)
	3.4 Traffic Safety
	3.5 Transport of Hazardous Materials
	3.6 Disease Prevention
	3.7 Emergency Preparedness and Response
4. Construction and Decommissioning	4.1 Environment
	4.2 Occupational Health and Safety
	4.3 Community Health and Safety

Source: IIGF, IFC official website

Appendix 6: Industry distribution in World Bank's *Environment, Health and Safety (EHS) Guidelines*

Industry Sectors	Specific Industries
Forestry	Board and Particle-based Products, Forest Harvesting Operations, Pulp and Paper Mills, Sawmilling and Wood-based Products
Infrastructure	Airlines, Airports, Crude Oil and Petroleum Product Terminals, Gas Distribution Systems, Health Care Facilities, Ports &Harbors and Terminals, Railways, Retail Petroleum Networks, Shipping, Telecommunications, Toll Roads, Tourism and Hospitality Development, Waste Management Facilities, Water and Sanitation
Agribusiness/Food Production	Annual Crop Production, Aquaculture, Breweries, Dairy Processing, Fish Processing, Food and Beverage Processing, Mammalian Livestock Production, Meat Processing, Perennial Crop Production, Poultry Processing, Poultry Production, Sugar Manufacturing, Vegetable Oil Production and Processing
Oil and Gas	Liquefied Natural Gas (LNG) Facilities, Offshore Oil and Gas Development, Onshore Oil and Gas Development
General Manufacturing	Base Metal Smelting and Refining, Cement and Lime Manufacturing, Ceramic Tile and Sanitary Ware Manufacturing, Construction Materials Extraction, Foundries, Glass Manufacturing, Integrated Steel Mills, Metal &Plastic &Rubber Products Manufacturing, Printing, Semiconductors and Electronics Manufacturing, Tanning and Leather Finishing, Textiles Manufacturing
Chemicals	Coal Processing, Large Volume Inorganic Compounds Manufacturing and Coal Tar Distillation, Large Volume Petroleum-based Organic Chemicals Manufacturing, Natural Gas Processing, Nitrogenous Fertilizer Manufacturing, Oleochemicals Manufacturing, Pesticides Formulation &Manufacturing and Packaging, Petroleum Refining, Petroleum-based Polymers Manufacturing, Pharmaceuticals and Biotechnology Manufacturing, Phosphate Fertilizer Manufacturing
Mining	Mining
Power	Electric Power Transmission and Distribution, Geothermal Power Generation, Thermal Power, Wind Energy

Source: IIGF, based on the official website of IFC

Appendix 7: *Global Reporting Initiative's Sustainability Reporting Standards*

(1) Main Content

The Global Reporting Initiative (GRI) aims to help reporting companies or organizations around the world understand and communicate their impact on critical sustainability issues, promote public disclosure of their economic, environmental and social performance information to stakeholders, publish regular sustainability reports, and enhance the comparability and credibility of the report. In October 2016, the Global Sustainability Standards Board released the GRI Sustainability Reporting Standards (GRI Standards), which include the GRI100 series of general standards and three series of issue-specific standards: the 200 series (economic issues), the 300 series (environmental issues) and the 400 series (social issues). Among of which, the GRI100 General Standards include 101 Basic Standards, 102 General Disclosure Standards, and 103 Management Approach; while GRI200 includes economic disclosure requirements, including economic performance, market performance, indirect economic impact, procurement practices, anti-corruption, anti-competitive practices, and taxation. GRI400 includes 19 sub-topics on employee employment, labor and management relations, occupational health and safety, and training and education, etc.

(2) Features

The GRI standard is a modification of the original G4 standard, which has been improved in format and presentation to reveal environmental, social and economic information more transparently, while aligning the content of the report with the UN Sustainable Development Goals. The current GRI standard has the following features: First, it uses data to demonstrate results. GRI's data partners regularly share data with GRI about the reporting subjects, identify reporting trends in their

countries and regions, and add the relevant information to GRI's sustainability disclosure database. Second, the framework is clear. GRI standards are clearly managed in a modular way, with categories clearly divided into economic, environmental and social categories to facilitate future deletion and revision of sub-categories. Third, the newly evolved standard has high flexibility and transparency. The subject using the standard has strong flexibility and transparency with different countries and industries.

(3) Application in Practice

As one of the most widely used sustainability reporting standards worldwide, the GRI standard represents global reporting best practices on economic, environmental, social and governance issues. Currently, more than 5,000 organizations use the GRI Standards for sustainability reporting globally, and GRI's mission is to enable decision-makers around the world to take action toward economic and world sustainability through GRI's sustainability standards and multi-stakeholder networks. According to the KPMG 2020 Sustainability Report Survey, it found that 96 percent of the world's 250 largest companies state they applied GRI Standards in reporting their sustainability performance; 80 percent of companies comprising the 100 largest companies in 52 countries apply the GRI Standards. GRI standards serves as a common global language for corporate transparency and offers the most effective way to disclose the sustainability impact. From the perspective of the domestic market, according to wind data, a total of 1,010 listed companies in all A shares in 2020 disclosed corporate social responsibility reports, of which 289 (approximately 28.6%) prepared reports based on GRI standards. It has become more and more common for listed companies to adopt GRI standards.

	GRI Standards	Disclosure Contents
GRI 100: Universal Standards	101: Foundation	● Defines reporting principles such as the content and quality of reporting
	102: General Disclosures	● Organizational Profile ● Strategy ● Ethics and Integrity ● Governance ● Stakeholder Engagement ● Reporting Practice
	103: Management Approach	● Explanation of the material topic and its boundary ● The management approach and its components ● Evaluation of the management approach
GRI 200: Economic Disclosure	201: Economic Performance	● Direct economic value generated and distributed ● Financial implications and other risks and opportunities due to climate change ● Defined benefit plan obligations and other retirement plans ● Financial assistance received from government
	202: Market Presence	● Ratios of standard entry level wage by gender compared to local minimum wage ● Proportion of senior management hired from the local community
	203: Indirect Economic Impacts	● Infrastructure investments and services supported ● Significant Indirect Economic Impacts
	204: Procurement Practices	● Proportion of spending on local suppliers
	205: Anti-corruption	● Operations assessed for risks related to corruption ● Communication and training about anti-corruption policies and procedures ● Confirmed incidents of corruption and actions taken
	206: Anti-competitive Behavior	● Legal actions for anti-competitive behavior, anti-trust, and monopoly practices
	207: Tax	● Approach to tax ● Tax governance, control, and risk management ● Stakeholder engagement and management of concerns related to tax ● Country-by-country reporting

GRI 300: Environmental Disclosures	301: Materials	● Materials used by weight or volume ● Recycled input materials used ● Reclaimed products and their packaging materials
	302: Energy	● Energy consumption within the organization ● Energy consumption outside of the organization ● Energy intensity ● Reduction of energy consumption ● Reductions in energy requirements of products and services
	303: Water	● Water withdrawal by source ● Water sources significantly affected by withdrawal of water ● Water recycled and reused
	304: Biodiversity	● Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas ● Significant impacts of activities, products, and services on biodiversity ● Habitats protected or restored ● IUCN Red List species and national conservation list species with habitats in areas affected by operations
	305: Emissions	● Direct /Scope 1 GHG emissions ● Energy indirect /Scope 2 GHG emissions ● Other indirect /Scope 3 GHG emissions ● GHG emissions intensity ● Reduction of GHG emissions ● Emissions of ozone-depleting substances /ODS ● Nitrogen oxides /NOx, sulfur oxides /SOx, and other significant air emissions
	306: Effluents and Waste	● Water discharge by quality and destination ● Waste by type and disposal method ● Significant spills ● Transport of hazardous waste ● Water bodies affected by water discharges and/or runoff
	307: Environmental Compliance	● Non-compliance with Environmental laws and regulations
	308: Supplier Environmental Assessment	● New suppliers that were screened using Environmental criteria ● Negative Environmental impacts in the supply chain and actions taken

GRI 400: Social Disclosures	401: Employment	● New employee hires and employee turnover ● Benefits provided to full-time employees that are not provided to temporary or part-time employees ● Parental leave
	402: Labor/ Management Relations	● Minimum notice periods regarding operational changes
	403: Occupational Health and Safety	● Occupational health and safety management system ● Hazard identification, risk assessment, and incident investigation ● Occupational health services ● Worker participation, consultation, and communication on occupational health and safety ● Worker training on occupational health and safety ● Promotion of worker health ● Prevention and mitigation of occupational health and safety impacts directly linked by business relationships ● Workers covered by an occupational health and safety management system ● Work-related injuries ● Work-related ill health
	404: Training and Education	● Average hours of training per year per employee ● Programs for upgrading employee skills and transition assistance programs ● Percentage of employees receiving regular performance and career development reviews
	405: Diversity and Equal Opportunity	● Diversity of governance bodies and employees ● Ratio of basic salary and remuneration of women to men
	406: Non-discrimination	● Incidents of discrimination and corrective actions taken
	407: Freedom of Association and Collective Bargaining	● Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk
	408: Child Labor	● Operations and suppliers at significant risk for incidents of child labor
	409：Forced or Compulsory Labor	● Operations and suppliers at significant risk for incidents of forced or compulsory labor
	410：Security Practices	● Security personnel trained in human rights policies or procedures
	411：Rights of Indigenous Peoples	● Incidents of violations involving rights of indigenous peoples
	412: Human Rights Assessment	● Operations that have been subject to human rights reviews or impact assessments ● Employee training on human rights policies or procedures ● Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening
	413: Local Communities	● Operations with local community engagement, impact assessments, and development programs ● Operations with significant actual and potential negative impacts on local communities
	414: Supplier Social Assessment	● New suppliers that were screened using social criteria ● Negative social impacts in the supply chain and actions taken
	415: Public Policy	● Political contributions
	416: Customer Health and Safety	● Assessment of the health and safety impacts of product and service categories ● Incidents of non-compliance concerning the health and safety impacts of products and services
	417: Marketing and Labeling	● Requirements for product and service information and labeling ● Incidents of non-compliance concerning product and service information and labeling ● Incidents of non-compliance concerning marketing communications
	418: Customer Privacy	● Substantiated complaints concerning breaches of customer privacy and losses of customer data
	419: Socioeconomic Compliance	● Non-compliance with laws and regulations in the social and economic area。

Source: IIGF, based on the official website of GRI

Appendix 8: *Sustainability Accounting Standards Board (SASB) Standards*

(1) Main Content

In November 2018, the Sustainability Accounting Standards Board (SASB) officially released the world's first industry-specific set of sustainability accounting standards covering material financial issues. the SASB standards cover the environmental, social and governance issues most relevant to financial performance in 77 sub-sectors under 11 broad industry categories and are designed to help companies disclose material financial sustainability information to investors.

(2) Features

SASB standards have the following main features: Firstly, they are industry-specific, and SASB has developed unique standards for each industry based on the different sustainability issues that arise from different business models, resource dependency and other factors. Secondly, it is based on market conditions, and SASB is developed and reviewed using a balanced view of investors, business professionals and subject matter experts. Thirdly, it is regularly updated. SASB regularly updates sustainability accounting standards on a cycle of several years so that the standards can keep pace with changing market needs and make timely adjustments.

(3) Application in Practice

As of 2019, 120 companies worldwide have adopted SASB standards, of which 76 are US companies and 44 are international companies. It can be seen that the scope of SASB's application is gradually making an impact worldwide. At the same time SASB is experimenting with different regulatory frameworks to meet the needs of investors worldwide. The SASB standard can be used in conjunction with other sustainable frameworks, it is aligned with the Task Force on Climate-related

Financial Disclosures (TCFD) recommendations and provides a useful addition to the relevant work of the Global Reporting Initiative (GRI). As an important global standard-setting organization, SASB is working with other organizations to promote the unification of international ESG standards. In April 2021, GRI and SASB jointly issued the "Practical Guidelines for Sustainability Reporting Using GRI and SASB Standards", which explored how to simultaneously apply these two standards to meet broader reporting requirements. At present, there are fewer Chinese companies applying SASB standards than other international standards, but there is reason to believe that more Chinese companies in different industries will adopt SASB standards in the future to promote the sustainable development of enterprises in the industry.

Industry Sector	Specific Industry
Consumer goods	Apparel, accessories and footwear; appliance manufacturing; building products and furniture; e-commerce; household and personal products; multi-line and specialty retailers and distributors; toys and sporting goods.
Extraction and Mineral processing	Coal business; construction materials; steel production; metals and mining; oil and gas exploration and production; oil and gas - midstream; oil and gas - refining and marketing; oil and gas - services.
Finance	Asset management and custody activities; commercial banking; consumer finance; insurance; investment banking and brokerage; mortgage finance; securities and commodities exchanges.
Food & Beverage	Agricultural products; alcoholic beverages; food retailers & distributors; meat, poultry & dairy products; non-alcoholic beverages; processed foods; restaurants; tobacco.
Health Care	Biotechnology and pharmaceuticals; pharmaceutical retailing; healthcare services; healthcare distributors; managed care; medical equipment and supplies.
Infrastructure	Electricity use and generators; engineering and construction services; gas use and transmission; housing construction; real estate development; real estate services; waste management; water utilities and services.
Renewable and Alternative energies	Biofuels; forestry management; fuel cells and industrial batteries; pulp and paper products; solar energy technology and project development; wind energy technology and project development.
Resource conversion	Aerospace and defense; chemicals; containers and packaging; electrical and electronic equipment; industrial machinery and goods.
Services	Advertising and marketing; casinos and gaming; education; hotels and accommodation; leisure facilities; media and entertainment; professional and business services.
Technology and communications	Electronic manufacturing services and original design manufacturing; hardware; internet media and services; semiconductors; software and information technology services; telecommunication services.
Transport	Air freight and logistics; airlines; automotive parts; cars; car rental; cruise ships; maritime transport; rail transport; road transport.

Source: IIGF, based on the official website of SASB

Appendix 9: Multilateral Development Bank ESG-Related Standards

(1) Main Content

Multilateral development banks have multiple member countries and play a unique role in third-party cooperation in infrastructure projects. Compared to government, financial institutions, and non-governmental organizations, multilateral development banks are essentially financial institutions and have authority like government at the same time. They can provide international public products while maintaining commercial characters. Therefore, these banks play a significant role in achieving sustainable development and green financial goals. Currently, the major international multilateral development banks include Inter-American Development Bank (IDB), European Bank for Reconstruction and Development (EBRD), Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB), African Development Bank (AfDB) and New Development Bank (NDB).

(2) Features

Although presently these multilateral development banks independently made their own environmental and social safeguard policies, and there exist some differences among their goals, strategic orientations and administration systems. However, there are also multiple similarities in their fundamental principles and policy framework and even detailed regulations and operation guidelines. The environmental safeguard policies listed above mainly focus on restrictions on projects assessments, clarifying the social and ecological impacts and the risk evaluation's objectives, policies, principles, scope, and management framework. Regarding the assessments' core issues, the environmental and social safeguard policies basically involve ESG issues like environmental pollution, biodiversity, gender-equality, labor rights, community health and safety, involuntary resettlement, indigenous peoples, and cultural heritage.

(3) Application in Practice

However, due to the various regions, politics, economy, and culture, these multilateral development banks have diverse objectives and focus on their environmental and social safeguard policies. There are significant differences among their primarily concerned regions, industries and project stakeholders. Therefore, problems still exist during the implementation of infrastructure projects, including strict evaluation conditions, cumbersome procedures, and deviations from exact circumstances. It still needs further research and studies to figure out how to truly respect each country's reasonable needs in economic and social development and progress and fully consider characters of the national conditions and social and political systems.

Multilateral Development Bank	The name of the standards	Main contents and goals
Inter-American Development Bank （IDB）	Environmental and Social Policy Framework (2020 Latest Version)	1.The Bank elevated respect for human rights to the core of environmental and social risk management, and involved a dedicated, stand-alone standard on gender equality; 2.The new standards on labour and working conditions are consistent with core international conventions and instruments; 3.It included the risks associated with epidemics; 4. The Bank aligned its standards on biodiversity protection and conservation with international best practices. 5. It is required to protect African descendants and persons with disabilities, and consideration of factors such as race and ethnicity, age, or social condition is also demanded. 6. The ESPF includes a stand-alone stakeholders engagement and information disclosure standard. They now require the borrowers to implement grievance mechanisms routinely.
European Bank for Reconstruction and Development （EBRD）	Environmental and Social Policy (2019)	1.According to EU standards and good international practice, it included the environmental and social requirements in the assessments and implements of all the projects financed by the Bank; 2.It provides specified technical and financial support for environmental and social issues; 3.The Bank promotes economic inclusiveness and access to community services such as water and public transportation; 4.It supports projects that promote gender equality; 5.They encourage the public to engage by pre-investment consultation and information disclosure and maintain regular strategic dialogues with civil society organizations and other stakeholders.
Asian Infrastructure Investment Bank （AIIB）	Environmental and social framework	1.Reflect institutional aims to address environmental and social risks and impacts in Projects. 2.Provide a robust structure for managing operational and reputational risks of the Bank and its shareholders in relation to Projects' environmental and social risks and impacts. 3.Ensure the environmental and social soundness and sustainability of Projects. 4.Support integration of environmental and social aspects of Projects into the decision making process by all parties. 5.Provide a mechanism for addressing environmental and social risks and impacts in Project identification, preparation and implementation. 6.Enable Clients (defined below in paragraph 5 of the ESP) to identify and manage environmental and social risks and impacts of Projects, including those of climate change. 7.Provide a framework for public consultation and disclosure of environmental and social information in relation to Projects. 8.Improve development effectiveness and impact to increase results on the ground, both short- and long-term. 9.Support Clients, through Bank financing of Projects, to implement their obligations under national environmental and social legislation governing these Projects. 10.Facilitate cooperation on environmental and social matters with development partners.

Asian Development Bank（ADB）	Safeguard Policy Statement(2009.7) (Integrated and Readjusted by the *Involuntary Resettlement Policy* (1995), the *Policy on Indigenous Peoples* (1998), and the *Environment Policy* (2002))	1.Environmental Safeguards: To ensure the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process. 2. Involuntary Resettlement Safeguards: To avoid involuntary resettlement wherever possible; to minimize involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups. 3. Indigenous Peoples Safeguards: To design and implement projects in a way that fosters full respect for Indigenous Peoples' identity, dignity,human rights, livelihood systems, and cultural uniqueness as defined by the Indigenous Peoples themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them.
African Development Bank（AfDB）	Integrated Safeguards System	1. Avoid adverse impacts of projects on the environment and affected people, while maximising potential development benefits to the extent possible; 2. Minimise, mitigate, and/or compensate for adverse impacts on the environment and affected people when avoidance is not possible; and 3. Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.
New Development Bank（NDB）	Environment and Social Assessment/ Involuntary Ressetlement/ Indigenous Peoples	The NDB believes that environmental and socially sustainable development is of great importance. Meanwhile, it must address infrastructure gaps and sustainable development demands consistent with national laws, regulations and authorizations. This policy aims to tightly integrate the NDB and the clients' project decision-making process and the overall bank operation.

Source: IIGF, based on public information

Appendix 10: Documents of ESG specifications/standards for China’s infrastructure construction industry

1.National government agency policy guidance

(1) State-owned Assets Supervision and Administration Commission: calling on enterprises to establish a social responsibility system and strengthen the construction of a corporate social responsibility communication system.

In recent years, the State-owned Assets Supervision and Administration Commission has issued a series of guidance documents mainly for central enterprises to fulfill their social responsibilities and strengthen international communication and cooperation. In January 2008, the State-owned Assets Supervision and Administration Commission issued the “Guiding Opinions on the Performance of Social Responsibilities of Central Enterprises”, stating that the performance of social responsibilities is an objective need for central enterprises to participate in international economic exchanges and cooperation. Successful experience, carry out benchmarking with advanced enterprises performing social responsibilities, sum up experience, identify gaps, and improve work. At the same time, it is necessary to further strengthen dialogue and exchanges with relevant international organizations, and actively participate in the formulation of international standards for social responsibility. In 2017, the State-owned Assets Supervision and Administration Commission issued the “Measures for the Supervision and Administration of Overseas Investment by Central Enterprises” (State-owned Assets Supervision and Administration Commission Order No. 35). The government, media, enterprises, communities and other public relations of the country (region) where the investment is located will actively perform social responsibilities, pay attention to cross-cultural integration, and create a good external environment.”

(2) National Development and Reform Commission, Ministry of Commerce: call on enterprises to pay attention to social responsibility and conduct effective communication with stakeholders.

In 2017, the National Development and Reform Commission issued the "Measures for the Administration of Overseas Investment by Enterprises", in which Article 41 states that "initiate investment entities to innovate overseas investment methods, adhere to the principle of honest operation, avoid unfair competition, protect the legitimate rights and interests of employees, respect local public order and good customs, Fulfill necessary social responsibilities, pay attention to ecological and environmental protection, and establish a good image of Chinese investors." The Ministry of Commerce has implemented relevant requirements for fulfilling social responsibilities when Chinese companies contract overseas projects. In 2013, the Ministry of Commerce and the former Ministry of Environmental Protection jointly issued the "Guidelines on Environmental Protection for Foreign Investment Cooperation" (hereinafter referred to as the "Guidelines"), in order to guide Chinese enterprises to further regulate environmental protection behaviors in foreign investment cooperation and guide enterprises to actively implement environmental protection. Social responsibility has played an essential role in promoting the sustainable development of foreign investment and cooperation. This time, the Political Research Center and the Sustainable Global Environment Research Institute are cooperating to evaluate the Guidelines' implementation, pay attention to the environmental, social standards, and best practices of infrastructure industries such as highways, hydropower, etc., and propose amendments to the Guidelines. It is of great significance to thoroughly implement Jinping's ecological civilization thought and practice the green "Belt and Road" initiative. In 2019, the Ministry of Commerce issued the "Administrative Measures for the Filing Report of Foreign Contracted Engineering Projects (Draft for Comment)", in which Article 3 emphasizes that companies should earnestly abide by relevant laws, regulations,

and international rules and practices when carrying out construction projects, avoid unfair competition, and strengthen risk. Take precautions, perform necessary social responsibilities, and establish a good image.

2.Industry Standards—Example: Infrastructure construction-related industries

(1) Industry Standards Related to Infrastructure Construction

According to the division standard of the SEC's sectoral industries, the industries related to infrastructure construction in China are mainly concentrated in the electricity, heat, gas and water production and supply industry; real estate industry; construction industry; transportation, storage and postal industry; water, environment and public facilities management industry; and information transmission, software and information technology service industry. Among the infrastructure construction-related industries, the ESG-related norm/standard documents that have been issued by various sectoral agencies and industry self-regulatory organizations in China are shown in the following table.

At present, the relevant policies/standards for infrastructure construction projects in China mainly focus on the environmental level, focusing on green design standards, construction specifications and environmental impact assessment of the projects. Sustainable evaluation standards on the three levels of integrated ESG have not been formulated or introduced within various industries, and there is a lack of measures to respond to the demands of various stakeholders of the projects, as well as the environmental benefits, social benefits and economic benefits generated by the projects under different geographical and industry characteristics. There is a lack of comprehensive measurement of projects' environmental, social and economic benefits in different geographical and industry features.

Infrastructure construction-related industries	ESG-related specifications / standards documents	National publishing / approving agencies
Electric Power Construction	2016 - Management Measures for Green Construction Demonstration Projects in Electric Power Construction	China Electric Power Construction Enterprises Association
	2014 - Risk Management code in Construction of Large and Medium-Sized Hydropower Projects	Ministry of Housing and Urban-Rural Development of the People's Republic of China
	2007 - Regulations for the Preparation of Environmental Protection Estimates for Water Conservancy and Hydropower Projects	Ministry of Water Resources of the People's Republic of China
Civil Engineering and Housing Construction	2019 - Green Buildings Evaluation Standards	Ministry of Housing and Urban-Rural Development of the People's Republic of China
	2019 - Green Performance Indexes and Evaluation Methods for Building Construction Machinery	National Technical Committee for Standardization of Building Construction Machinery and Equipment
	2015 - Evaluation Standards for Green Renovation of Existing Buildings	Ministry of Housing and Urban-Rural Development of the People's Republic of China
	2014 - Evaluation Standards for Green Industrial Buildings	Ministry of Housing and Urban-Rural Development of the People's Republic of China
	2010 - Evaluation Standard for Green Construction of Construction Projects	Ministry of Housing and Urban-Rural Development of the People's Republic of China
Railroad and Road Transport	2018 - Technical Requirements for the Evaluation of Green Transportation Facilities	Ministry of Transport of the People's Republic of China
	2017-Technical Specification for Environmental Impact Assessment of Transportation Special Plans	Ministry of Transport of the People's Republic of China
	2016 - Design Code for Environmental Protection of Railway Engineering	National Railway Administration
	2015 - Green Transportation Standard System	Ministry of Transport of the People's Republic of China
	2010 - Design Code for Environmental Protection of Highways	Ministry of Transport of the People's Republic of China
	2006 - Specification for Environmental Impact Assessment of Highway Construction Projects	Ministry of Transport of the People's Republic of China
Water Transportation	2018 - Specification for Construction Environmental Supervision of Water Transportation Projects	Ministry of Transport of the People's Republic of China
	2016 - Technical Regulations for Environmental Protection Investigation of Water Transportation Project Completion Acceptance	Ministry of Transport of the People's Republic of China
	2013 - Evaluation Standards for Green Port Grades	Ministry of Transport of the People's Republic of China
	2007 - Design Code for Environmental Protection of Port Engineering	Ministry of Transport of the People's Republic of China
Communication	2019 - Technical Standards for Environmental Protection of Communication Engineering Construction	Ministry of Housing and Urban-Rural Development of the People's Republic of China
	2016-Methods for Assessing the Environmental Impact of Communication Facilities	Ministry of Industry and Information Technology of the People's Republic of China
Urban Planning	2018- Standard for Green Settlements	China Engineering Construction Standardization Association, China Real Estate Industry Association
	2017- "Evaluation Standards for Green Ecological Urban Areas"	Ministry of Housing and Urban-Rural Development, People's Republic of China
Others	2018 - General Rules for Evaluation of Green Factories	Ministry of Industry and Information Technology of the People's Republic of China
	2011 - Guidelines and Examples for Environmental Information Exchange on Environmental Management	National Technical Committee for Environmental Management Standardization
	2009 - Regulations on Environmental Impact Assessment for Planning	State Council of the People's Republic of China

Source: IIGF, based on public information

(2) Standards for Overseas Sustainable Infrastructure Construction Projects

In order to conform to the trend of international sustainable infrastructure development and to meet the requirements of the rapid development of the industry, the China Foreign Contractors Association has formulated the *Guidelines for Chinese Enterprises' Overseas Sustainable Infrastructure Projects*. Following the basic principles of sustainable infrastructure such as the principle of interest-related principles, the principle of full life cycle, and the principle of adapting to change, the guidelines provide sustainability assessment tools and guides for infrastructure projects in which Chinese enterprises (or led by Chinese enterprises) participate in the whole process including project investment, planning, design, construction, operation, maintenance and abolition abroad, that is, engineering facility projects and large-scale contracted engineering projects that provide public services for social production and residents' lives. The guidelines include core content such as economic sustainability guidelines, social sustainability guidelines, environmental sustainability guidelines, and sustainable governance norms. At the same time, it refers to many international sustainable infrastructure standards and concepts, and aims to guide enterprises to establish reasonable and effective sustainable governance standards and promote the sustainable operation and development of their overseas infrastructure projects.

Appendix 11: Documents related to ESG practices of China listed companies

At the micro-level, enterprises are the main entities of infrastructure projects. Their knowledge and practice of ESG development concepts are related to the overall operation of sustainable infrastructure projects. At the present stage, China's evaluation standards for corporate ESG practices are mainly for listed companies, which mainly reflect their ESG-related practices by requiring listed companies to disclose ESG-related information and publish social responsibility/ESG reports. From government departments to financial regulators and listed trading platforms, and finally to the internal system construction and operation mode of listed companies themselves, a top-down system of ESG practice-related evaluation criteria has been formed.

At present, ESG practices and related information disclosure of listed companies in China are at a preliminary stage. On the one hand, the majority of enterprises have not yet integrated ESG development concepts into their own internal system construction, and lack guidelines for the development of relevant practices and the incorporation of consideration of environmental and social risks in the risk management process; On the other hand, the transparency of ESG information disclosure of listed companies in China is still low. According to the statistics of Green Gold Institute of China University of Finance and Economics, the proportion of listed companies that can disclose ESG information through independently released social responsibility reports/ESG reports/environmental information disclosure reports only accounts for about 25% of all A-share listed companies at this stage, and most listed companies only disclose a small amount of information on the fulfillment of social responsibility in their annual reports according to the requirements of trading platforms or regulatory authorities, and the ESG-related issues involved are mainly pollutant treatment, employee rights and interests protection, social welfare and poverty alleviation, and organizational structure, etc. Not only are the topics more limited, but the main way of information disclosure is qualitative description, lacking the support of quantitative data.

Type of Institution	Relevant Institution	Published Documents and Time	ESG Related Key Content
State Government Department	State Council of the People's Republic of China	October 2020 - Opinions on Further Improving the Quality of Listed Companies	Optimize the structure and development environment of listed companies, so that the standardization of operation of listed companies will be significantly enhanced, the quality of information disclosure will be continuously improved, outstanding problems will be effectively solved, and sustainable development capability and overall quality will be significantly improved
National financial regulators	China Securities Regulatory Commission（CSRC）	December 2017 - "Standard on the Content and Format of Disclosure for Companies Issuing Public Securities No. 2 - Content and Format of Annual Reports (Revised 2017)" and "Standard on the Content and Format of Disclosure for Companies Issuing Public Securities No. 3 - Content and Format of Semi-Annual Reports (Revised 2017)	Refined the requirements for disclosure of environmental information, requiring listed companies to disclose information on environmental management and pollution emissions in their annual and semi-annual reports; other companies adopted the principle of "disclosure or explanation" to encourage and guide companies to disclose environmental information on their own initiative
		June 2018 - Code of Governance for Public Companies	Clarifies the basic framework of ESG disclosure, further promotes the unified development of the ESG rating system, and provides a basis for the preparation of corporate environmental information disclosure
		February 2021 - Rules on Investor Relations Management for Listed Companies	Expanded the information content of listed companies' communication with investors. Added requirements for disclosure of environmental, social responsibility and corporate governance (ESG) information by companies
Listed Trading Platforms	Shanghai Stock Exchange	2008 - Guidelines on Environmental Information Disclosure for Listed Companies on the Shanghai Stock Exchange	The company's work to promote environmental and ecological sustainability, such as how to prevent and reduce pollution of the environment, how to protect water and energy resources, how to ensure the habitability of the area, and how to protect and enhance the biodiversity of the area
		March 2019 - Shanghai Stock Exchange Rules for the Listing of Shares on the Science and Technology Venture Exchange	Companies applying for listing on the STB are required to disclose the fulfillment of social responsibility in their annual reports, and prepare and disclose documents such as social responsibility reports, sustainability reports and environmental responsibility reports as appropriate
	Shenzhen Stock Exchange	2006 - Guidelines on Social Responsibility of Listed Companies on Shenzhen Stock Exchange	The company shall, in accordance with the requirements of the guidelines, actively fulfill its social responsibility, regularly assess the fulfillment of its social responsibility and voluntarily disclose the corporate social responsibility report
	The Stock Exchange of Hong Kong	2019 - New Environmental, Social and Governance Reporting Guidelines	Added a number of key disclosure indicators in the environmental area, emphasizing materiality assessment and quantitative information disclosure principles

Source: IIGF, based on public information

Appendix 12: Documents related to ESG practices of policy banks

As policy financial institutions to carry out the national policy, the policy banks play an important role in the infrastructure construction projects in China and attach great importance to integrating economic and social development and ecological civilization construction. In the process of opening-up, policy banks, typified by the National Development Bank and the Export-Import Bank of China, respond to the needs of co-construction of national development and the diversified demands of international financing, actively cooperate with collaborating countries in mutual infrastructure connectivity, capacity cooperation and park construction, adhere to the principle of harmonious development of environment and economy, and create typical cases.

1.China Development Bank (CDB)

In terms of controlling the credit environmental and social risks, CDB has applied the environmental and social risk management approach to each aspect of its business, and by assessing the potential negative circumstances and the possible social problems, CDB uses the results as one of the references for approving credit access. At the same time, it has established a feedback mechanism to track and forecast credit risks, preventing possible environmental and social risks in advance, and carried out dynamic risk forecast management. Once the risks occur, it will act immediately to stop the loss in time.

2.Export-Import Bank of China

As early as 2007, the Export-Import Bank of China established the green credit strategy of "encouraging the development of green credit business and actively controlling the credit business environment and social risks ", and issued the guidance on environmental of loan projects and social evaluation of Ex-Im Bank of China, which regards environmental information as a necessary

condition for loan approval. In 2015, Ex-Im Bank of China issued the Green Credit Guidelines of Ex-Im Bank of China, in accordance with the former China Banking Regulatory Commission's Green Credit Guidelines, the Key Rating Indicators for the Implementation of Green Credit and the relevant state policies and regulations, defined the connotation, working targets and principles of Green Credit of Ex-Im Bank of China, and put forward the direction and work requirements for the future construction of the whole bank's green credit system from different aspects such as credit culture, classification management and policy system, and realized the full coverage of the entire credit process by green credit management.

For the evaluation and management of environmental and social risks of overseas projects, the Export-Import Bank of China will mainly base on the regulations of the host country. If the environmental protection mechanism of the project country is not perfect and the corresponding environmental and social impact assessment policies and standards are relatively lacking, the implementation should be carried out according to our standards or international practices. The production equipment and processes used in the project must meet the relevant environmental protection requirements. The impact of project implementation on local ecology, environment, humanity, security, immigrants, social formation must be evaluated, and borrowers and project executors must take environmental protection measures and programs against environmental risks. If necessary, the bank will take environmental and social responsibility requirements into the loan contracts to monitor and restrain the borrower's behaviors. For projects with major environmental and social problems in construction and operation, borrowers or project owners may be required to take measures to eliminate the impact in time. For projects that do not eliminate the impact as required, according to the contract, the bank can take measures such as stopping the issuance of loans, early recovery of loans and so on.