China Council for International Cooperation on Environment and Development (CCICED)

Special Policy Study Report

2020-2021

Green BRI and 2030 Agenda for Sustainable Development

Enhancing Environmental Management for BRI Projects

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LIST OF ABBREVIATIONS

ADB - Asian Development Bank
AIIB - Asian Infrastructure Investment Bank
BOO - Building-Owning-Operation
BRI - the Belt and Road Initiative
CAF - Development Bank of Latin America
CBI - Climate Bond Initiative
CERAT - Climate and Environment Risk Assessment Toolbox
CICA - Conference on Interaction and Confidence Building Measures in Asia
CIDC - Committee for International Development Cooperation
CPPA-G - Central Power Purchasing Agency-Guarantee
CPS - Country Partnership Strategy
DAC - Development Assistance Committee
DBSA - Development Bank of Southern Africa
DEWA - Dubai Electric Power and Water Affairs Bureau
DFI - Development Finance Institution
EDCF - Economic Development Cooperation Fund
EHS - Environment, Health and Safety
ERST - Environmental Risk Screening Tool
ESRM - Enterprise Security Risk Management
ESF - Environmental and Social Framework
GEBI - Green Bond Environmental Index
GIP - Green Investment Principles
ICMA - International Capital Market Association
IETC - International Environmental Technology Center
IFC - International Finance Corporation
IIGF - International Institute of Green Finance, CUFE
IPP - Industry-Public-Private
JBIC - Japan Bank for International Cooperation
JICA - Japan International Cooperation Agency
KOICA - Korea International Cooperation Agency
MDB – Multilateral Development Bank
MOFA - South Korea’s Ministry of Foreign Affairs
MOSF - South Korea’s Ministry of Strategy and Finance

NDC - Nationally Determined Contributions

NGFS - Network of Greening the Financial System

ODA - Official Development Assistance

OECF - Overseas Economic Cooperation Fund

OT - Oyu Tolgoi

PPA- Power Purchase Agreements

QMM - QIT Madagascar Minerals

SCO - Shanghai Cooperation Organization

SDG - Sustainable Development Goals

UNEP - United Nations Environment Programme

UNEP-WCMC - UN Environment Programme World Conservation Monitoring Centre

WB - World Bank

WBG - World Bank Group

1. GREEN SILK ROAD ENABLES HIGH-QUALITY DEVELOPMENT OF BRI COOPERATION

Since the Belt and Road Initiative (BRI) was put forward eight years ago, it has achieved fruitful results and far-reaching influence. Adhering to the principle of extensive consultation, joint contribution, and shared benefits, and pursuing green, open and clean development, BRI has injected impetus into the process of globalization that has been challenged since the global financial crisis in 2008 by means of policy coordination, infrastructure connectivity, unimpeded trade, financial integration, and people-to-people bond. It is a well-recognized global public product provided by China to the world and creates new opportunities for BRI participating countries to develop together and share prosperity.

1.1 Promote BRI towards High-quality Development

In the past eight years, BRI has evolved into a mutually beneficial and win-win road that connects the development prospects of BRI participating countries, and has had a far-reaching impact on promoting the development of a community with a shared future for mankind. As of February 2020, China has signed more than 200 BRI cooperation documents with 140 countries and 31 international organizations[1]. BRI and its core concepts have been incorporated into relevant documents of the United Nations, G20, APEC and other regional organizations[2]. Focusing on the main framework of "six corridors and six channels serving multiple countries and ports", and relying on a number of BRI landmark cooperation projects that proceed smoothly in the fields of ports, railways, highways, electric power, aviation and communications, the infrastructure in BRI participating countries has been improved substantially, and trade and investment potential has been effectively released. By the end of 2019, China had invested a total of USD 35 billion in cooperation zones built by countries along the BRI, paid more than USD 3 billion of taxes and fees to host countries, and created 320,000 jobs for the locality[3]. In addition, according to the estimation of the World Bank, the decline in trade costs brought about by the BRI infrastructure development will increase global real income, and BRI-related investment can help 7.6 million people get rid of extreme poverty and lift 32 million people out of moderate poverty[4].

Although the COVID-19 once brought global development to a standstill, the BRI showed great resilience and vitality and became a bright color in the haze of the pandemic. In the first three quarters of 2020, China's cumulative imports and exports to countries along the BRI

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[1] The list of countries that have signed BRI cooperation documents with China, Belt and Road Portal, 12 March 2021, https://www.yidaiyilu.gov.cn/gbjg/gbgk/77073.htm

[2] Ambassador Cong Peiwu publishes a signed article on Belt and Road Initiative on CCBC's website, the official website of the Embassy of the People's Republic of China in Canada, 23 June 2021, http://ca.china-embassy.org/eng/sgxw/t1885976.htm

[3] Ministry of Commerce of the People's Republic of China, Report on Development of China's Outward Investment and Economic Cooperation, December 2020, http://images.mofcom.gov.cn/fec/202102/20210202162924888.pdf.

[4] China Ushers in a New Stage of High-Quality Development in BRI Cooperation in the 14th FYP, China Pictorial, 9 December 2020, http://www.rmhb.com.cn/zt/ydyl/202012/t20201209_800229530.html

increased by 1.5% year-on-year[5]; and its non-financial direct investment in countries along the BRI increased by 29.7% year-on-year[6]. With the tightening of pandemic prevention measures in various countries and the obstruction of shipping and air transportation, China-Europe Express gives full play to the advantages of cross-border railway freight service and helps BRI participating countries overcome the impacts of pandemic and other unfavorable factors, provides strong support to expedite the development of a green logistics network, to stabilize international supply chain, and to underpin the global war against the pandemic[7].

The outbreak of pandemic shows once again that humanity is a community with shared weal and woe. In the post-pandemic era, green recovery will contribute new development opportunities to the BRI. Green is the bright background of the BRI. In the process of promoting high-quality development of the BRI, building the Green Silk Road will make much more positive and promising contributions. The 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of the Long-Range Objectives Through the Year 2035 (the 14th Five-Year Plan) points out that China will continue to strengthen the alignment of development strategies and policies, promote the interconnectivity and interoperability of infrastructure, deepen pragmatic economic, trade, and investment cooperation, and build a bridge for mutual learning among civilizations. The document further proposes to "strengthen exchanges and cooperation in climate change response, marine cooperation, wildlife protection, desertification prevention and control, and promote the construction of the Green Silk Road".[8] At the Boao Forum for Asia Annual Conference held in April 2021, President Xi Jinping announced that "China will continue to work with other parties in high-quality Belt and Road cooperation... in a bid to make Belt and Road cooperation high-standard, people-centered and sustainable." Besides, China will "build a closer partnership for green development". It will "strengthen cooperation on green infrastructure, green energy and green finance, and improve the BRI International Green Development Coalition, the Green Investment Principles for the BRI, and other multilateral cooperation platforms to make green a defining feature of Belt and Road cooperation".[9] At the Asia and Pacific High-level Conference on Belt and Road Cooperation held in June 2021, China and other 28 countries jointly put forth the Initiative for Belt and Road Partnership on

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[5] China's General Administration of Customs: In the First Three Quarters of 2020, China's Cumulative Import and Export to Countries Along the BRI Increased by 1.5% Year-On-Year, Ministry of Commerce of the People's Republic of China, 14 October 2020, http://www.mofcom.gov.cn/article/i/jyjl/j/202010/20201003007782.shtml.

[6] Ministry of Commerce of the People's Republic of China: China's Non-Financial Direct Investment in Countries Along the BRI Increased by 29.7% Year-On-Year in the First Three Quarters, People's Network, 19 October 2020, http://finance.people.com.cn/n1/2020/1019/c1004-31896412.html

[7] COVID-19 Presents Both Risks and Opportunities for BRI Development, China Today, 18 May 2020, http://www.chinatoday.com.cn/zw2018/sp/202005/t20200518_800204786.html

[8] The 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of the Long-Range Objectives Through the Year 2035, XinhuaNet, 13 March 2021, http://www.xinhuanet.com/2021-03/13/c_1127205564_13.htm

[9] Xi Jinping's Keynote Speech at the Opening Ceremony of Boao Forum for Asia Annual Conference 2021, XinhuaNet, 20 April 2021, http://www.xinhuanet.com/politics/leaders/2021-04/20/c_1127350811.htm

Green Development, calling for "internationally collaborative efforts to achieve green and sustainable recovery, and foster a low-carbon, resilient and inclusive post-pandemic growth".[10]

1.2 The Green Silk Road Provides New Impetus for the Implementation of 2030 Sustainable Development Goals

Eco-environmental cooperation is an important part of the BRI. It is the initial intention and vision of the Chinese government to build the BRI into a green road of development, and is also a key action to build a community of shared future for mankind. In the past eight years, while strengthening the construction of its own ecological civilization, China has actively worked with the BRI participating countries to build the Green Silk Road, and injected new impetus into the implementation of the 2030 Sustainable Development Goals (SDGs) based on bilateral, multilateral, regional and sub-regional ecological and environmental cooperation.

Underpinned by multilateral cooperation mechanisms such as the BRI International Green Development Coalition (BRIGC), the BRI Green Development Institute and the BRI Environmental Big Data Platform, the building of Green Silk Road has witnessed the constant improvement of the platform for policy dialogue, knowledge sharing and technology exchange, continuous deepening of cooperation on environmental governance, biodiversity conservation and climate change among BRI participating countries, and steady enhancing of international consensus on green development.

Relying on the Belt and Road South-South Cooperation Initiative on Climate Change, China helps vulnerable countries to enhance their ability to cope with climate change. It has been cooperating with Laos, Cambodia and Seychelles in the development of low-carbon demonstration zones and donated facilities for tackling climate change to Pakistan, Bangladesh, Iran, Chile, Uruguay, Cuba, Botswana, Egypt and other countries. With the implementation of the Green Silk Road Envoys Programme, China has provided training opportunities for more than 3,000 people from over 120 countries, which is therefore praised by the United Nations Environment Programme as a "Model of South-South Cooperation".

1.3 BRI Investment Features the Growth of Scale and Green-Oriented Growth

The BRI is not only the road of economic prosperity, but also the road of green development. In the past eight years, the economic and trade cooperation between China and the BRI participating countries has been continuously deepened, and the investment vitality has constantly enhanced, which has facilitated the industrialization process and provided new opportunities for green development in BRI participating countries and regions along the BRI.

First, regional economic and trade cooperation is highly active, with continuous increase of total foreign direct investment. According to the statistics of the Ministry of Commerce and the State Administration of Foreign Exchange of China, from 2013 to 2019, China's cumulative direct investment in countries along the BRI was USD 117.31 billion, with an

[10] The Initiative for Belt and Road Partnership on Green Development, Ministry of Foreign Affairs of the People's Republic of China, 24 June 2021, https://www.fmprc.gov.cn/web/ziliao_674904/1179_674909/t1886384.shtml

average annual growth rate of 6.7%, which was 2.6 percentage points higher than the China's average in the same period. Regardless of the drop in 2016 that was affected by the significant increase in total foreign direct investment in that year, the proportion of direct investment in the BRI countries continued to grow (Figure 1.1).

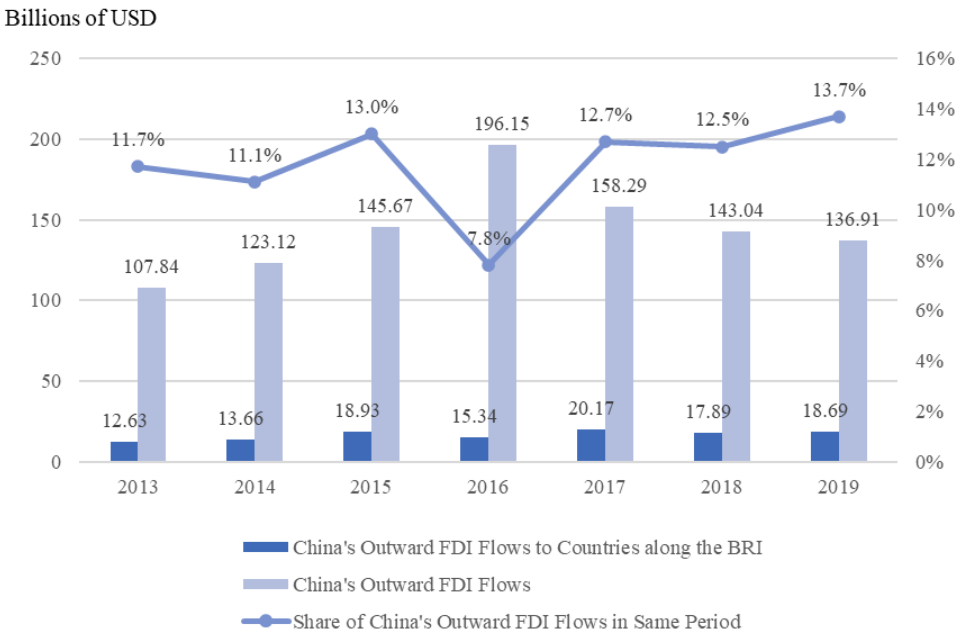


Figure 1.1 China's Outward FDI in Countries along BRI, 2013-2019

Source: Statistical Bulletin of China's Outward Foreign Direct Investment, Report on China's Foreign Investments and Economic Cooperation, and reports from the official website of the Ministry of Commerce of the People's Republic of China

Second, climate change has triggered regional consensus, and the proportion of renewable energy investment has been increasing. The BRI has not only spurred the economic growth and social development of the participant countries, but also made positive efforts to cope with climate change across the globe. In September 2020, China put forward the vision of reaching its carbon emissions peak before 2030 and achieving carbon neutrality by 2060, which further enriched the connotation of green investment under BRI. In the infrastructure investment of the BRI, the proportion of renewable energy investment is also increasing. By the first half of 2020, China's investment in renewable energy in BRI related countries surpassed investment in fossil energy for the first time[11], forming an all-round international cooperation system for clean energy covering equipment manufacturing, joint research and development, engineering design and construction, and project investment and operation.

China's Investment in the Belt and Road Initiative (BRI) in 2020 released by the IIGF Green BRI Center also shows that the energy sector is still the focus of the BRI investment in 2020, ranking first in all industries in terms of investment amount and the number of projects, while

[11] Zhou Yamin. Transformation and Upgrading of China's Industrial Chains Fueled by the Duel Goals of Carbon Emissions Peak and Carbon Neutrality. China Development Observation. 2021(Z1): 56-58.

the renewable energy investments (solar, wind, hydro) increased from 35% in 2017 to 56% in 2020 and became the majority of China's overseas energy investments. [12]

Box 1.1 Solar Thermal Power Generation: Dubai 700MW Solar Thermal Power Generation Project

Solar thermal power generation is a technology that converts solar energy into heat energy and generates electricity through the process of heat-power conversion. Dubai 700MW Solar Thermal Power Generation Project is an integral part of the 950MW (photothermal and photovoltaic) hybrid project of Mohammedbin Rashid Al Maktoum Solar Park Phase IV in Dubai (hereinafter referred to as Dubai 700MW Project) and also so far the largest solar power generation project under construction in the world. This project is jointly invested by Dubai Electricity and Water Authority (DEWA), China Silk Road Fund (owning 24.01% stake) and ACWA Power, and constructed in IPP (Industry-Public-Private) mode. It is one of BRI's key projects and a landmark project in the Middle East market. The total investment of the project is 14.2 billion dirhams (about RMB 25.3 billion). ACWA Power is the project developer, Shanghai Electric Group, a Chinese-funded enterprise, is the general contractor of the project, and DEWA is the power buyer.

Design of Dubai 700MW Solar Thermal Power Generation Project

Dubai 700MW Project includes 3×200MW trough solar thermal power generation units and 100MW tower solar thermal power generation unit. The project started construction on March 19, 2018 and is expected to be put into production by the end of 2022. The project adopts the world's leading "tower + trough" centralized solar thermal power generation technology. It is the solar thermal power generation project being constructed with the largest installed capacity, the highest technical standards, the heaviest investment and the lowest electricity price in the world. Its tower unit is equipped with a 15-hour molten salt thermal energy storage system, while the tank unit has 11 – 13.5 hours of thermal storage. Different from the intermittent nature and instability of photovoltaic power generation, the power output of solar thermal power generation is both stable and adjustable. It can still maintain a stable power output at night. Upon completion, the Project can generate 700,000 kilowatts of clean power per hour with the world's

[12] *China's Investment in the Belt and Road Initiative (BRI) in 2020.* Green BRI Center, International Institute of Green Finance (IIGF) under Central University of Finance and Economics. 2020.

largest thermal storage capacity. It can provide sufficient clean power to 270,000 households in Dubai and reduce 1.4 million tons of carbon emissions every year.

Third, investment fields and subjects are becoming increasingly diversified, and the third-party market cooperation mode is gradually emerging. In the early stage, BRI investment was focused on the infrastructure such as energy, transportation, communication and water conservancy, and main investors were mostly state-owned enterprises. In recent years, the industries of direct investment in countries and regions along the BRI have become increasingly diversified, distributed in manufacturing, leasing and business services, wholesale and retail, building and construction, mining, finance, power production and heat supply, agriculture, forestry, animal husbandry and fishery, etc.[13] More and more private enterprises and foreign-funded enterprises are joining the BRI investment. The model of third-party market cooperation is gaining popularity.[14] Third-party market cooperation is based on "complementary advantages", and adopts the concept of "equal consultation". It aims at "win-win results among three parties" through "enterprise-led" cooperation and even attains the effect of "1+1+1 > 3". It is highly consistent with the spirit of "extensive consultation, joint contribution, and shared benefits" advocated by the BRI. As a new mode of international economic cooperation, the third-party market cooperation has been widely concerned and welcomed by relevant enterprises in developed countries and countries and regions along the BRI. Since 2015, China has successively signed joint statements or documents on third-party market cooperation with 14 countries[15], which is characterized by diversified modes and large-scale projects. International, bilateral and multilateral financial institutions are also strengthening financing support and constantly exploring ways to expand cooperation in third-party markets.

1.4 Motives and the Goals of Environment Management for BRI Projects

The Chinese government attaches great importance to the eco-environmental protection in BRI projects. With the continuous improvement of China's green finance system and the wide spread of the concept of sustainable investment worldwide, BRI investment and financing environment management has become the key in the green and high-quality development in BRI. The Chinese government has issued more than 30 policy documents focusing on areas such as foreign economic and trade cooperation, building green Silk Road, and green finance, with a series of management level requirements, guiding opinions and supporting policies on eco-environmental protection pertinent to China's "outward investment". These documents

[13] Ministry of Commerce of P.R.C., Report on Development of China's Outward Investment and Economic Cooperation, December 2020, http://images.mofcom.gov.cn/fec/202102/20210202162924888.pdf.

[14] Third-party market cooperation refers to the market cooperation between Chinese enterprises and multinational enterprises in developed countries in professional fields such as foreign direct investment, infrastructure construction, financial product supply, capacity utilization, foreign aid and etc. in the third-party market with high trade complementarity for the two sides.

[15] The 14 countries are France, South Korea, Canada, Portugal, Australia, Japan, Italy, the Netherlands, Belgium, Spain, Austria, Singapore, Switzerland and the United Kingdom, which are sorted by the author according to the official websites of the Ministry of Commerce and the Ministry of Foreign Affairs of China and relevant reports from the *People's Daily*.

have provided clear policy guidelines for the participants of BRI projects to carry out environmental management in their investment and financing activities.

In 2013, the Ministry of Commerce and the former Ministry of Environmental Protection jointly issued the "Guidelines for Environmental Protection in Foreign Investment and Cooperation", which encourages enterprises to foster the awareness of environmental protection, fulfill environmental responsibilities according to the laws, abide by environmental protection laws and regulations of the host countries, and fulfill their duties and obligations in environmental impact assessment (EIA), emission standards, environmental emergency management and etc. In 2017, the "Guidance on Promoting Green Belt and Road" was issued jointly by the Ministry of Ecology and Environment, Ministry of Foreign Affairs, National Development and Reform Commission and the Ministry of Commerce, while the "Belt and Road Ecological and Environmental Cooperation Plan" was also released by the Ministry of Ecology and Environment. Both documents have articulated clear requirements on the environmental management of BRI investments and projects. In July 2021, the Ministry of Commerce and the Ministry of Ecology and Environment jointly issued the "Green Development Guidelines for Overseas Investment and Cooperation", which further notes to "encourage enterprises to conduct ecological and environmental risk prevention measures and improve the capacity of ecological and environmental management" and that Chinese enterprises shall "take reasonable and necessary measures to reduce or mitigate adverse environmental impacts". In addition, "Catalogue of Green Bond Support Projects (2021 Edition)" released in April 2021 also excluded high-carbon projects such as fossil energy projects, with funding skewed toward green finance to support climate change responses. It is foreseeable that the afore-mentioned new regulations will raise higher requirements for the green practice of BRI investment and financing, and underscore the importance of environmental management for BRI investments to BRI green development, which will speed up the thorough alignment of green BRI with the 2030 Agenda for Sustainable Development.

Thus, the Special Policy Study (SPS) of 2021 places its focus on improving relevant entities' environmental management capacities for overseas investments, and puts forward targeted policy recommendations on establishing a green management system for BRI projects by a comprehensive analysis of Chinese and international environmental management policies, methods, practices, and practical experience, with the aim to secure and power green and high-quality development of BRI. Chapter 2 reviews China's environmental management system for overseas projects and the corresponding progress. Chapter 3 first examines the environment management practices of development finance institutions such as the World Bank, and then analyzes the official development assistance (ODA) practices of Japan and South Korea, the second largest economies and most important investors in East Asia, to summarize implications of environmental management in ODA to China's environmental management in overseas projects. Based on the above analysis, Chapter 4 puts forward policy recommendations on promoting the full alignment of green BRI and the 2030 Agenda for Sustainable Development, including 4 key areas for BRI investment and financing to support sustainable development at strategic level, 4 policy suggestions to guide non-governmental entities to carry out environment management from the public governance perspective; and 5 key pillars to enhance full life cycle management of the BRI's overseas projects in practice.

2. CHINESE PERSPECTIVE: ENVIRONMENTAL MANAGEMENT SYSTEM FOR CHINA OVERSEAS INVESTMENT

Given the involvement of multiple stakeholders in the environmental management of overseas projects, enterprises, governments, financial institutions, professional and technical entities such as third-parties need to collaborate with each other (Figure 2.1). Among them, enterprises are the subject of decision-making, execution and responsibility in environmental management. Factors such as administrative management, policies and regulations, financial support, as well as professional and technical tools will serve as the guarantees for enterprises to practice full life cycle environmental management, providing indispensable external constraints and fundamental support. Besides, demands and feedbacks from the host countries are of equal importance for the project environmental management. This chapter will focus on China's environmental management legislative framework for overseas investments and the corresponding progress in building such framework.

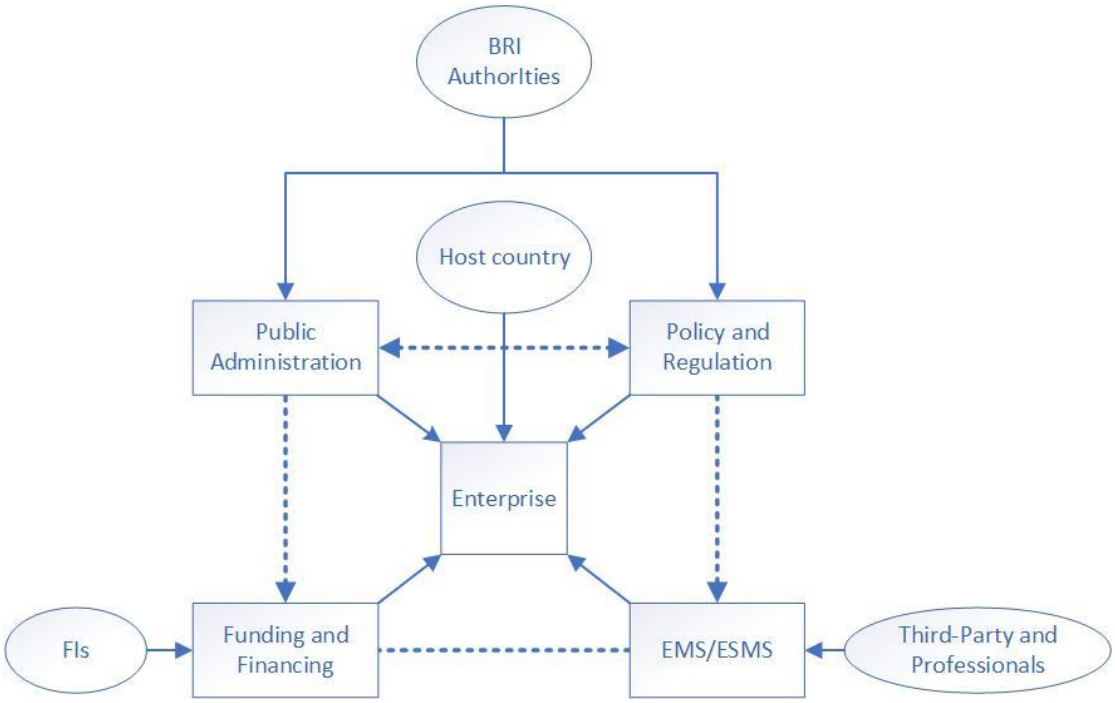


Figure 2.1 Collaborative Relationship among Participants in the Environmental Management System of the BRI Foreign Investment

Source: by authors

2.1 Environmental Management Policies for China Overseas Investment

Based on the collected materials that are available through public channels, this research has identified 32 policy documents issued by Chinese governments at all levels (Tables 2.1-2.3), which are applicable to the environmental management of BRI overseas investment. Within the framework outlined by the above policy documents, there is no specific document on the environmental management of BRI overseas investment. However, in such policy areas as foreign trade and economic cooperation, building the Green Silk Road, eco-environmental

protection, and green finance, the Chinese government has put forward a series of management requirements, guiding opinions and supporting policies on ecological and environmental protection of "outbound investment". In particular, in July 2021, MOFCOM and the Ministry of Ecology and Environment (MEE) jointly released the "Green Development Guidelines for Overseas Investment and Cooperation", which clearly encourages Chinese enterprises to conduct "eco-environmental management" and "eco-environmental risk prevention" in overseas investment, and comply with international requirements, including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), the 2030 Sustainable Development Goals (SDGs), Green Investment Principles for BRI (GIP), etc.

Table 2.1 Policies related to Environmental Management in BRI Investment – State Council Level

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
2017	Administrative regulations: Regulations on the Administration of Foreign Contracted Projects (Revised) (Order No.676 of the State Council of the People's Republic of China)	the State Council	Abide by the **laws** of the host country/region, abide by the **contract**, respect local **customs and tradition**, and pay attention to **ecological and environmental protection**
2017	Normative document of the State Council: Notice on Guiding Opinions on Further Guiding and Regulating the Direction of Overseas Investment (Guo Ban Fa [2017] No.74)	NDRC/MOFCOM/PBOC/MFA (forwarded by the General Office of the State Council)	Restrict implementation of overseas investment projects that do not meet **the environmental protection, energy consumption and safety standards of the host country**
2016	Normative document of the State Council: Notice on Printing and Distributing the Thirteenth Five-Year Plan for Ecological Environmental Protection (Guo Fa [2016] No.65)	the State Council	Establish and improve **the green investment and green trade management system**, and implement **the environmental protection guidelines for foreign investment cooperation**

Source of information: http://www.pkulaw.cn/

Table 2.2 Policies related to Environmental Management in BRI Investment – Ministry Level

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
Policy Area 1-1: Management of Foreign Economic Cooperation			
2021	Departmental Regulations: Green Development Guidelines for Overseas Investment and Cooperation (No. 309 of Shang He Han, 2021)	MOFCOM, MEE	7. Prevention of Ecological Environmental Risks. Encourage enterprises to carry out **ecological and environmental risk prevention** in accordance with relevant requirements for overseas investment, and improve the enterprises' **ecological and environmental management**.

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
			Encourage enterprises to follow the host countries' rules and standards and take reasonable and necessary measures to reduce or mitigate potential **adverse environmental impacts** caused by the investment. For the adverse impact on biodiversity, conservation and restoration measures shall be taken according to the international practice. 8. Following International Green Rules. Encourage enterprises to comply with international requirements, including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), **the 2030 Sustainable Development Goals (SDGs), and Green Investment Principles for BRI (GIP)**.
2019	Departmental normative documents: Guiding Opinions on Promoting the High-Quality Development of Foreign Contracted Projects (Shang He Fa [2019] No.273)	MOFCOM/MFA/NDRC, etc	**Basic principles:** Guide enterprises to adhere to the concept of **green, open and clean development**, **and pay attention to ecological and environmental protection**; Implement high-quality and sustainable **infrastructure projects**; Guide enterprises to establish **correct values of justice and interests** and earnestly **fulfill their social responsibilities**; Build a **comprehensive risk prevention and control system** to actively prevent and resolve various risks; **Specific opinions:** According to the internationally accepted rules and standards, **the concept of sustainable development is integrated** into the project selection, implementation and management of foreign contracted projects; Guide enterprises to strengthen **communication and common interests** with the government, enterprises and people in the project host country, pay attention to **environmental protection** and fulfill **social responsibilities**; Effectively regulate the operation of foreign contracted projects to strictly abide by **the laws and regulations of China, those of the host countries, and relevant international rules and standards** in key links such as **environmental protection**;

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
			Promote the development of **credit system for foreign economic cooperation**, and improve the provisions on the **identification and information recording of dishonesty** in foreign contracted projects;
2017	Departmental regulations: Measures for the Administration of Overseas Investment of Enterprises (Order No.11 of NDRC)	NDRC	Encourage investors to protect the **legitimate rights and interests of employees**, respect local **public order and good customs**, fulfill necessary **social responsibilities**, and pay attention to **ecological and environmental protection**
2017	Departmental regulations: Measures for the Supervision and Administration of Overseas Investment by Central Enterprises (Order No.35 of SASAC of the State Council)	SASAC	Establish **correct values of justice and benefit**, adhere to the principle of **mutual benefit and win-win cooperation**, strengthen the development of public relations, and actively fulfill **social responsibilities**; Abide by laws and be compliant, comply with **laws and regulations, business rules and cultural customs** of China and the host countries (regions);
2017	Departmental normative documents: Notice on Issuing the Code of Conduct for Overseas Investment and Management of Private Enterprises (F.G.W.Z [2017] No.2050)	NDRC/MOFCOM/PBOC/MFA/NFIC	Overseas investment by private enterprises should pay attention to **resource and environmental protection**, including protecting resources and environment, carrying out environmental impact assessment, applying for environmental protection permit, formulating emergency plans for environmental accidents, carrying out cleaner production and paying attention to ecological restoration.
2014	Departmental regulations: Measures for the Administration of Overseas Investment (Order No.3 of the MOFCOM of the People's Republic of China, 2014)	MOFCOM	Overseas enterprises invested by them should be required to abide by **the laws and regulations of** investment **recipient localities**, respect local **customs and habits**, fulfill their **social responsibilities**, and perform duties well in **environmental protection, labor protection, and corporate culture development**;
2013	Departmental normative document: Guidelines for Environmental Protection in Foreign Investment and Cooperation (S.H.H [2013] No.74)	MOFCOM/Former MEP	Guide Chinese enterprises to further **behave themselves in environmental protection** in foreign investment cooperation; Guide enterprises to actively fulfill their **social responsibility for environmental protection**; Promote the **sustainable development** of foreign investment cooperation;
2013	Departmental normative documents: Notice on Printing and Distributing the Provisions on Regulating Competition Behavior	MOFCOM	It shall abide by the **laws and regulations** of the country (region) where the project is located, respect local customs and habits, attach importance to **environmental**

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
	in Foreign Investment Cooperation Field (S.H.F [2013] No.88)		**protection** and fulfill necessary **social responsibilities**. Foreign investment cooperative business activities that constitute unfair competition **in violation of regulations** will be recorded, and enterprises involved **shall not enjoy relevant state support policies within 3 years**.
2008	Departmental normative document: Notice on Further Regulating Foreign Investment Cooperation of Chinese Enterprises (S.H.F [2008] No.222)	MOFCOM/MFA/SASAC	It is necessary to enhance the **consciousness** of "understanding the law, abiding by the law, and operating in good faith". ... in-depth study and abide by the **laws and regulations** of the host countries, especially the regulations on environmental protection, labor and employment, entry and exit management, safe production, bidding and other aspects; To **deal with or punish** enterprises that violate laws and regulations and cause serious consequences.
2012	Inner-Party regulations: Notice on Printing and Distributing Several Opinions on the Development of Overseas Enterprise Culture in China (S.Z.F [2012] No.104)	MOFCOM/SCIO/MFA/NDRC/SASAC	Incorporate "fulfilling social responsibilities … performing well in **environmental protection**, paying attention to resource conservation, and minimizing the environmental pollution and damage caused by the production and operation activities of enterprises" into corporate culture development for Chinese enterprises operating outside China
Policy Area 1-2: Information Filing and Credit System Development of Foreign Economic Cooperation			
2018	Departmental normative documents: Notice on Printing and Distributing the Interim Measures for Foreign Investment Filing (Approval) Report (S.H.F [2018] No.24)	MOFCOM/PBOC/SASAC, etc.	Investors are required to **regularly submit information on key links of foreign investment** according to the principle of "all filing (approval) must be reported"; Including that main problems exist in foreign investment, compliance with local laws and regulations, protection of resources and environment, protection of employees' legitimate rights and interests, fulfillment of social responsibilities, implementation of safety protection system, etc.
2017	Departmental working document: Guiding Opinions on Strengthening the Construction of Credit System in the Field of Foreign Economic Cooperation (F.G.W.Z. [2017] No.1893)	NDRC/PBOC/MOFCOM, etc	In case of violation of domestic and cooperative countries and regions' relevant laws and regulations, international conventions and United Nations resolutions, relevant competent departments shall **record the subject, responsible person and behavior of dishonesty in credit records**.
2013	Departmental normative documents: Notice on Printing and	MOFCOM/MFA/MPS	Foreign investment behaviors that damage the local ecological

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
	Distributing the Trial Measures for Bad Credit Records in Foreign Investment Cooperation and Foreign Trade (Shang Hefa [2013] No.248)		environment and threaten local public safety are included in the "**bad credit record of foreign investment cooperation**"
Policy Area 3: Green Finance			
2020	Departmental normative document: Guiding Opinions on Promoting Investment and Financing in Response to Climate Change (H.Q.H. [2020] No.57)	MEE/NDRC/PBOC/ CBIRC/CSRC	Encourage financial institutions to support the **low-carbon development of BRI and "South-South Cooperation"**, and promote **climate mitigation and adaptation projects** to land overseas. Regulate the overseas investment and financing activities of financial institutions and enterprises, assist them to actively **fulfill their social responsibilities**, and effectively **prevent and resolve climate risks**.
2016	Departmental normative documents: Guiding Opinions on Building a Green Finance System (Y.F. [2016] No.228)	PBOC/MOFCOM/N DRC/Former MEP, etc.	Guide financial institutions to support and promote the construction of ecological civilization and **improve the green level of foreign investment**
2012	Departmental normative documents: Notice on Printing and Distributing Guidelines for Green Credit (Y.J.F [2012] No.4)	Former CBRC	Financial institutions should **strengthen environmental and social risk management of overseas projects**
Policy Area 3: Development of Green Silk Road			
2017	Departmental working document: Guiding Opinions on Promoting the Development of a Green Belt and Road Initiative (H.G.J [2017] No.58)	Former MEP/MFA/NDRC/ MOFCO	Integrate the principles of **resource conservation and environmental friendliness**; Encourage enterprises to comply with **international rules** and the **laws, regulations, policies and standards** of the host countries pertinent to ecological and environmental protection; Strengthen the **environmental management of overseas investment**;
2017	Departmental working document: Notice on Printing and Distributing the Belt and Road Ecological Environmental Protection Cooperation Plan (H.G.J [2017] No.65)	Former MEP	Comply with laws and regulations and promote **the greening of international capacity cooperation and infrastructure construction**; Guide and facilitate green **investment decisions**. Strengthen environmental risk management, improve the level of environmental information disclosure, use green financing tools such as green bonds to raise funds, and establish and use environmental pollution compulsory liability insurance and other tools to carry out environmental risk management in high-risk areas.
2015	Departmental working paper: Vision and Actions on Jointly Building the Silk Road Economic	NDRC/MFA/MOFC OM (Issuance authorized by the State Council)	**Highlight the concept of ecological civilization** in investment and trade, strengthen cooperation in ecological environment, biodiversity and climate

Year of Issuance	Level of Effectiveness File Name	Formulating and Publishing Units	Key Content
	Belt and the 21st Century Maritime Silk Road		change, and jointly build the Green Silk Road. Encourage enterprises to operate according to the principle of localization … Take the initiative to assume **social responsibility** and strictly **protect biodiversity and ecological environment**.

Source of information: http://www.pkulaw.cn/

Table 2.3 Policies related to Environmental Management in BRI Investment – -Local Government Level

Year of Issuance	File Name	Key Content
2018	Local normative documents: Notice of Shandong Provincial Development and Reform Commission on Printing and Distributing the Measures for the Administration of Overseas Investment of Enterprises in Shandong Province	The investment subject shall require its invested overseas enterprises: To comply with laws and regulations of investment recipient localities; To actively carry out the development of enterprise culture; To respect local customs and habits; To fulfill social responsibilities; To behave well in environmental and labor protection; To innovate overseas investment methods; To adhere to the principle of good faith management; To avoid unfair competition behavior; To promote communication with local communities.
2018	Local normative documents: Notice of Beijing Development and Reform Commission on Printing and Distributing the Measures for the Administration of Overseas Investment of Enterprises in Beijing	
2018	Local normative documents: Notice of Jiangxi Provincial Development and Reform Commission on Printing and Distributing the Measures for the Administration of Overseas Investment of Enterprises in Jiangxi Province	
2018	Local normative documents: Notice of Chongqing Municipal People's Government on Printing and Distributing the Measures for the Administration of Overseas Investment of Enterprises in Chongqing	
2018	Local normative documents: Notice of Sichuan Provincial Department of Commerce on Printing and Distributing the Detailed Rules for the Implementation of Administrative Measures for Overseas Investment in Sichuan Province	
2015	Local normative documents: Detailed Rules for the Implementation of Overseas Investment Management by Guangdong Provincial Department of Commerce	
2015	Local normative documents: Notice of Qingdao Municipal Bureau of Commerce on Printing and Distributing the Administrative Measures for Overseas Investment of Qingdao Municipal Bureau of Commerce	
2015	Local normative documents: Notice of the General Office of Tianjin Municipal People's Government on Forwarding the Measures for the Administration of Overseas Investment in China (Tianjin) Pilot Free Trade Zone drafted by the Municipal Commission of Commerce	
2015	Local normative documents: Notice of Hunan Provincial Department of Commerce on Printing and Distributing the Detailed Rules of Hunan Province's Measures for the Administration of Overseas Investment	
2014	Local normative documents: Notice of Gansu Provincial Department of Commerce on Doing a Good Job in Overseas Investment Management	

Source of information: http://www.pkulaw.cn/

2.2 Features of Environmental Management Legislative Framework for China Oversea Investment

2.2.1 Policy Coverage Areas

The above policies cover three main areas: foreign economic cooperation (overseas investment and foreign contracted projects) management, green finance, and Green Silk Road development. These areas can be further divided into the following sub-categories: (1) Specific items related to investment philosophy, behavior, risk management, direction, project selection, compliance rules of foreign investment subjects, foreign investment credit system development and punishment for dishonesty. (2) Specific items related to financial institutions' capital investment flow, investment green level, investment project environmental and social risk management. (3) Specific items related to general principles, production capacity distribution and the green behavior guidelines for enterprises in the building of Green Silk Road, as well as the environmental management and eco-environmental risk prevention for overseas investment. However, there is still no policy document especially designed as guidance and basis for the environmental management of the BRI overseas investment.

2.2.2 Policy Content

According to specific contents, existing policy portfolio mainly regulates and guides enterprises' environmental protection behavior inoverseas investment (including the BRI overseas investment) from three aspects. First, it encourages enterprises to establish environmental protection concepts, to fulfill social responsibility for environmental protection, to respect religious beliefs and customs of the host country, to protect the legitimate rights and interests of workers, and to achieve "win-win" situation between their own profits and environmental protection. Second, enterprises are required to abide by the environmental protection laws and regulations of the host country, and investment cooperation projects are required to obtain environmental permission from local government according to law, and to fulfill legal obligations for environmental protection such as environmental impact assessment (EIA), emission compliance, and environmental emergency management. Third, enterprises are encouraged to follow international standards, and refer to environmental protection principles, standards and practices adopted by international organizations and multilateral financial institutions.

In 2015, China's National Development and Reform Commission, Ministry of Foreign Affairs and Ministry of Commerce jointly issued the first government white paper on the BRI, which is also a planning document on the BRI, *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road*, for the first time setting clear environmental management requirements for the BRI overseas investment. It puts forward the concrete requirements of "highlighting the concept of ecological civilization in investment and trade, strengthening cooperation on ecological environment, biodiversity and climate change, and building a green Silk Road together", and encourages enterprises to take the initiative to assume social responsibility and strictly protect biodiversity and ecological environment.

2.2.3 The Level of Policy Effectiveness

According to the principle that "the level of effectiveness depends on the level of formulation subject" embodied in the *Legislative Law* of China, to analyze the effectiveness stages of the above policies, it is necessary to divide them into four categories from the perspective of the level of formulation subject: (1) Policy documents formulated or issued by the State Council (3 pieces): 1 piece of administrative regulation and 2 pieces of normative documents; (2) Policy documents formulated or issued by various ministries and commissions of the State Council (18 pieces): 3 pieces of departmental regulations, 10 pieces of departmental normative documents, and 4 pieces of departmental working documents; (3) Policy documents formulated and issued by local governments (10 pieces): 10 pieces of normative documents of local governments in Beijing, Tianjin, Shandong, Hunan, Sichuan, Chongqing, Jiangxi, Gansu and Guangdong; (4) Inner-party documents: 1 piece of inner-party regulation.

The ministries and commissions of the State Council are the main bodies of policy making under the current policy framework, among which the Ministry of Commerce in charge of foreign trade and investment leads the most intensive issuance (leading issuance of 9 pieces of documents). Since 2013, competent department of ecological environment has participated in the policy formulation in this field, and jointly issued the "Guidelines for Environmental Protection in Foreign Investment and Cooperation" and the "Green Development Guidelines for Overseas Investment and Cooperation" with the Ministry of Commerce, which is of symbolic significance for environmental management of China's foreign investment. Subsequently, in the field of building a green Silk Road, it took the lead in formulating and issuing special documents such as "Guiding Opinions on Promoting the Development of a Green Belt and Road Iinitiative" and "Notice on Printing and Distributing the Belt and Road Environmental Protection Cooperation Plan".

2.2.4 The Effectiveness of Policy Constraints

According to the binding effect of the policy content, among the above 32 documents: (1) 17 policy documents put forward specific requirements that investors should comply with laws and regulations, abide by the laws and regulations of China and the investment recipient localities, fulfill their social responsibilities, strengthen the development of public relations with all sectors of society in the country (region) where they invest, and restrict the development of overseas investment projects that do not meet the environmental protection standards of the host country, which need to be implemented, followed or referred to by investors, with corresponding punishment mechanisms. (2) The other 15 documents encourage investors to abide by the laws and regulations of investment recipient localities, respect local customs and habits, do a good job in environmental protection, and fulfill social responsibilities. However, there is no mandatory requirement on the behavior of investors, and the policy binding force is weak.

2.3 Summary

The BRI overseas investment is an important part of China's foreign investment. Therefore, the environmental management of BRI overseas investment should be conducted under the existing administrative system and policy framework. The Chinese government has long been

attaching great importance to the protection of ecological environment in the process of carrying out outbound investment, requiring investors to act in accordance with the laws and regulations of the recipient countries, fulfill corporate social responsibilities, and protect the environment as well as the workers. The existing foreign investment management policies are "green" in essence.

To enhance the regulation and guidance of the environmental management of BRI overseas investment, governments at all levels in China have issued 32 policy documents concerning this topic, incorporating the concept and specific requirements of green and sustainable development from the perspectives of foreign investment, green finance, and building a green Silk Road. These policies provide clear policy regulation, iniitaive, and guidance for overseas investors to fulfill their main responsibility of environmental management, to abide by the laws and regulations of China and host countries and to fulfill their social responsibilities.

However, with the continuous growth of BRI overseas investment, the increase in the number of host countries of the BRI overseas construction projects, and further aggravation of the impact of climate crisis on the BRI participating countries, the goal of building the BRI with high quality puts forward higher requirements for the environmental management of relevant projects. Meanwhile, since 2017, the concept and market of green finance have risen rapidly. As a feedback mechanism to force investors to pay attention to environmental impact and optimize investment decisions by adjusting capital supply, the effective and efficient operation of green financial system needs to be based on massive high-quality environmental information, and needs to promote the implementation of environmental management procedures including environmental risk assessment and environmental benefit assessment, and further improve the refined environmental management by investors.

Considering the two aspects mentioned above, the existing policies are facing with realistic challenges of relatively low legal hierarchy, weak binding force, and regulatory requirements that are not specific enough for practical implementation. Thus, stronger policy guidance and administration measures are needed to support the existing practice.

3. INTERNATIONAL PERSPECTIVE: EXPERIENCES OF ENVIRONMENTAL MANAGEMENT IN INTERNATIONAL DFI AND ODA

3.1 International DFI Experiences for ESRM

Two reinforcing trends have dominated the development of environmental management practices among international development finance institutions (DFIs) in the last decade: internally, they have developed more robust and comprehensive oversight mechanisms, and externally, they have given greater emphasis on understanding and supporting the country systems of borrowers. While these two trends may appear to indicate movement in opposite directions, they are complementary in practice. As banks have come to better understand the environmental and reputational risks intrinsic to international development finance, they have bolstered their own project screening and oversight processes, while simultaneously working to better understand and support borrowers' own capacities to manage project portfolios.

3.1.1 Choice of DFIs Examined Here

This chapter attempts to examine in depth a representative sample of 8 DFIs from more than 450 DFIs that exist globally, which together manage over USD 11 trillion in assets (Xu, Maradon, and Ru 2020). The DFIs studied here include as wide as possible of an array of these institutions that work internationally, with levels of activity that can be considered comparable to China's.

Firstly, they represent the three most common geographic scopes: (i) the World Bank (WB) and International Finance Corporation (IFC) are global; (ii) the Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), and Development Bank of Latin America (CAF) are regional; and (iii) the Development Bank of Southern Africa (DBSA), Japan International Cooperation Agency (JICA), and Japan Bank for International Cooperation (JBIC) are bilateral in nature. Furthermore, the Multilateral Development Banks (MDBs) chosen for this study consist of MDBs with significant participation of high-income countries, including the WB, IFC, and ADB, as well as regional south-south partnership organizations, such as the AIIB and CAF. The three bilateral institutions also represent three different types of relationships: the DBSA extends South African development finance to countries within its region[16]; JICA is Japan's development bank that operates overseas; and JBIC is its export credit agency (ECA).

Overall, DFI internal practices have become more comprehensive, incorporating a broader range of environmental concerns and incorporating them more fully into their project evaluation and oversight. As Tables 3.3 shows, the DFIs such as WB, IFC, DBSA and AIIB share a commonality of recent revisions and reforms in their environmental screening practices. The frameworks without recent revisions – at the ADB and JICA – are also the most rudimentary. Greenhouse gas emissions are evaluated in project screening by all DFIs examined here except JICA, and ecosystem services are incorporated in policy, operations, or both, by all DFIs except the ADB. This trend reflects a growing recognition of the importance of several aspects of environmental risks.

On the borrower side, DFIs have incorporated the understanding that international finance necessitates a shared oversight between lender and borrower. While lenders can protect themselves from unnecessary environmental and reputational risk through internal risk management systems, to be effective, they must also recognize and encourage the management efforts of borrowing countries. This borrower engagement begins long before projects are proposed. Each of the DFIs studied here is also active in "upstream" project strategy and preparation, assisting borrowers in developing their priorities into specific finance proposals. During project implementation, these DFIs also engage carefully with the environmental management systems of borrowing countries.

[16] It is worth mentioning that, while the Development Bank of Southern Africa lends regionally, it is owned and managed by South Africa.

This approach often requires lenders to understand those local systems well, to know when it is appropriate to rely on them. For example, although the ADB has the oldest environmental management framework studied here, it has simultaneously developed a thorough process of not only evaluating borrower country systems for the purpose of using them where possible, but also evaluating and collaborating on strengthening borrower institutional capacity for enforcing local management policies. In addition, the World Bank, ADB, and DBSA all have provisions for evaluating country systems and using them where possible in project screening. During implementation, nearly all DFIs studied here assist with borrower transparency, facilitating the publication of borrower-produced project documentation. Finally, all but JICA and JBIC rely on third-party monitors.

In sum, the trend over the last few decades shows that DFIs have grown in their understanding that building their own environmental management systems and recognizing those of borrowing countries are complementary goals. As many scholars (including Prinsloo et al 2017; Morgado and Taşkın 2019; Ray et al 2020) have noted, lenders have come to recognize that environmental management is most effective when approached as a partnership that recognizes borrower priorities, gives policy space to local authorities to carry out their own policies where possible, and strengthens local institutions so that they can better carry out their own missions alongside lenders.

Finally, as Table 3.1 shows, this selection includes DFIs that primarily lend to sovereign governments, those that primarily lend to private-sector commercial borrowers, and one that works amply in both arenas.

Table 3.1 DFIs Studied Here and their Scope

		Lending Focus (Clients)		
		Sovereign	Both	Non-Sovereign
Scope	Global	WB		IFC
	Regional	AIIB, ADB	CAF	
	Bilateral	DBSA, JICA		JBIC

Box 3.1 DFIs' Motivation for Independent Environmental Management Systems

Borrower governments face a host of conflicts of interest between project facilitation and regulation, which can leave potentially important gaps. An Inter-American Development Bank study of 200 infrastructure-related social conflicts over 40 years in Latin America found that in 86% of conflicts, national governments exacerbated the problems by underestimating risks or not sufficiently planning to mitigate those risks (Watkins et al, 2017). Unruh et al (2019) find that in East Africa, while international DFIs or donors often mandate common practices such as ESIAs and resettlement plants, government capacity and political will to effectively oversee and carry out the necessary ESRM steps vary widely among host countries. Warford (2004), studying infrastructure development in East Asia and the Pacific, finds that these inconsistencies can often be linked to a lack of integration between short-term, project-

specific governance measures (such as ESIAs) and longer-term government goals for overall growth and development. When tensions arise between the two, it creates conflicts of interests for policy makers, which can result in a lack of follow-through on governance commitments made to international lenders or investors.

While Warford (2004) studied Asia specifically, other authors find that these phenomena are common to developing countries worldwide. For example, Ebeke and Ölçer (2017) find that low-income countries' election cycles influence their governments' appetites for spending, particularly for highly-visible infrastructure projects. Such spending peaks before elections and declines thereafter, once policy-makers are no longer under pressure to produce immediate tangible results for their constituents. Furthermore, as Ray, Gallagher, and Sanborn (2020) find in a series of infrastructure case studies in South America, these political considerations frequently result in governments' declaring of particularly visible projects as "strategic," thereby exempting them from comprehensive environmental and social risk management in order to expedite them, often resulting in highly-visible project-related failures, delays, and/or conflicts. Finally, Ballón et al (2017), also studying Latin America, find that all of the above factors are further complicated by global commodity super-cycles. When global prices fall after a commodity boom, developing countries that depend on commodity exports for foreign exchange tend to relax the regulatory framework for new inbound international investment, in the hopes of attracting fresh infusions of hard currency. Ultimately, as Ray et al (2017) find, these lapses can leave foreign investors and lenders committed to projects that have received insufficient planning and oversight from their local governments, opening the door for reputational damage for the international partner, environmental damage to local ecosystems, and social conflict in the surrounding communities.

For all of the reasons listed above, DFIs have established corporate practices to shield their portfolios from these conflicts of interest. Such protections need not interfere in borrowers' domestic policy, but simply protect DFIs from participation in projects that will become ensnared in technical, environmental, or social complications.

3.1.2 Upstream Engagement of DFIs

Before projects are proposed, each of these DFIs collaborates with borrowers to create sectoral and regional strategies and generate project proposals that are both financially and environmentally sustainable. They do so through three main avenues: strategic, technical, and financial. First, strategic cooperation produces long-term plans for project development. This can take place through cross-sector country development strategies, more specific plans for selected sectors or themes such as transportation or green energy transitions, or at the regional level through the creation of transnational, harmonized networks of projects. Second, technical cooperation shares the DFI's knowledge base with borrowers, to assist in turning ideas into specific projects. Finally, they offer financial assistance, through grants or concessional financing, for the generation of the studies necessary to present a proposal for DFI support.

Table 3.2 DFI Upstream Engagement

	Global		Regional			Bilateral		
	WB	**IFC**	**ADB**	**AIIB**	**CAF**	**DBSA**	**JICA**	**JBIC**
Strategic project identification support								
Country level	B	P	B	X	X	X	P	X
Sector level	B	B	B	B	B	B	P	P

Thematic level	B	B	B	N	B	B	X	X
Regional level	B	X	B	P	P	X	X	X
Technical project preparation support								
Direct support by staff	B	P	B	B	B	B	B	P
Indirect support through third parties	B	B	B	B	B	B	B	X
Financial project preparation support								
Grant support, general	B	X	B	B	B	B	B	X
Grant support, thematic	B	B	B	X	X	B	X	X
Grant support, company-specific	X	B	B	X	X	X	X	X
Facility, general	B	X	B	B	B	B	X	X
Facility, thematic	B	B	B	X	X	B	X	X
Facility, company-specific	X	B	X	X	X	X	X	X

Legend:

B	**Broad** availability and use of this type of assistance
P	**Partial** availability in certain sectors or themes, such as public transit, infrastructure or regional integration
X	**Not available** to any significant extent

Source: Adapted from Rahill (2021).

A few examples merit particular mentions. The ADB is active in all of strategic engagement approaches discussed here. Its Country Partnership Strategies lay out general directions for given borrowers, while its Energy Sector Strategy and Climate Strategy do so on the sector and thematic bases. Regionally, its Central Asia Regional Economic Cooperation Transport Strategy envisions linked networks across regional partners. A recent ADB internal evaluation found that this type of upstream engagement is an important driver of new project development.[17] The AIIB, the newest of the DFIs profiled here, has developed and adopted a "Sustainable Energy for Asia" strategic approach to collaborative planning for interconnected, green energy networks.

Collaboration on project development can take technical or financial approaches. For example, the DBSA offers infrastructure planning solutions for municipalities, to assist lower-capacity local governments with project identification support. On the financial side, CAF's Public Transport Improvement Program and Regional Logistics Development Program offer pre-investment financial support for developing new projects in specific sectors. JBIC takes a broader, trans-sectoral approach, with its Global Facility to Promote Quality Infrastructure Investment for Environmental Preservation and Sustainable Growth.

3.1.3 Project Screening

Table 3.3 explores DFIs approach to 13 common environmental aspects of proposed project. As the table shows, DFIs have significant agreement on covering pollution-based concerns in their operations, often with reference in high-level policy to reinforce the primacy of these considerations. Notably, most DFIs' approach climate change mitigation in this category, through technical requirements akin to those covering pest management or hazardous materials.

[17] ADB. 2020. Sector-wide Evaluation: ADB Energy Policy and Program, 2009–2019.

The only DFI without an institutional application of pollution concerns is JICA, which does not address resource efficiency or greenhouse gas emissions, either in policy or operations.

It is also noteworthy that CAF and DBSA – two purely south-south DFIs– have widespread operational incorporation of all but one of the concerns here. This finding reinforces the compatibility between developing country interests and mainstreaming environmental concerns in project evaluation.

Table 3.3: Environmental Project Evaluation Criteria

	Global		Regional			Bilateral		
	WB 2016	**IFC** 2012	**ADB** 2009	**AIIB** 2019	**CAF** 2015	**DBSA** 2020	**JICA** 2010	**JBIC** 2015
Pollution: mitigation hierarchy: prevention, management, control, abatement	PO	PO	PO	PO	PO	PO	O	O
Resource efficiency (particularly energy and water)	PO	PO	O	O	O	PO	X	O
Wastes, including hazardous materials	O	O	O	O	O	O	O	O
Pest management	O	O	O	O	O	O	O	O
Greenhouse gas emissions as a pollutant	O	O	O	O	O	O	X	O
Biodiversity, habitats, and forests	PO	PO	PO	PO	PO	PO	PO	PO
Living natural resources: provision for crops, livestock, fisheries	O	O	P	X	PO	O	O	O
Invasive alien species	O	O	O	O	O	O	O	O
Ecosystems and ecosystem services	P	O	X	O	O	O	P	O
Specific provisions for biodiversity offsets (beyond mitigation hierarchy)	O	O	X	P	O	O	X	O
Provisions for no net loss (biodiversity and/or habitat)	O	O	P	X	O	O	O	O
Provisions for net gain (loss of critical habitat)	O	O	X	X	O	O	X	O
Supply chains (crops, livestock, and deforestation)	O	O	X	X	X	O	X	O

Legend:

PO Covered at the highest level of **Policy**/standard/requirement and **Operations**.

O Clearly referenced in policy/standards and incorporated into DFI **Operations** but not in high-level policy.

P Referenced in **Policy** or guidance but without specificity and/or without incorporation into operations.

X **Not addressed** in policies or practice to any great extent.

Source: Adapted from Rahill (2021).

Table 3.4 delves more deeply into the specific tasks and mechanisms employed by each DFI during the process of screening project proposals. Here it becomes clear that MDBs tend to have significantly greater coverage of these technical requirements than do the bilateral institutions covered here, though CAF also has a more limited application of these measures.

Almost every DFI studied here classifies projects into one of several risk categories, based on factors such as sector and location, which then determines the level of scrutiny that the project proposal will receive before being considered for approval. The World Bank and IFC have a

dynamic approach to these risk factors, adjusting them during project implementation based on performance, which then influences future oversight during project execution.

Table 3.4: DFI E&S Risk Management Processes and Procedures during Screening

	Global		Regional			Bilateral		
	WB 2016	**IFC** 2012	**ADB** 2009	**AIIB** 2019	**CAF** 2015	**DBSA** 2020	**JICA** 2010	**JBIC** 2015
Screening and risk categorization								
Application of risk/impact rating at project preparation stage (3 or 4 point scale)	X	X	X	X		X	X	X
Implementation-phase specific rating	X	X						
Exclusion / divestment lists								
Corporate-level exclusion list/divestment commitment	X	X	X	X	X	X		
Additional E&S exclusion	X	X	X	X	X			X
Use of country or industry standards								
Criteria and conditions for use of borrower standards	X		X	X				
Reference to technical / industry standards	X	X	X	X		X	X	X
E&S Due Diligence Review: provisions for specific types of lending								
Financial intermediaries	X	X	X	X	X	X	X	
Advisory services and/or technical assistance	X	X				X	X	
Co-financing arrangements / common approach	X		X	X	X			
Emergency lending	X		X	X			X	
Projects to be defined during implementation (framework agreements, facilities, etc)	X		X	X		X		
Financial products other than loans and grants (equity, guarantees, etc)	X	X						

Source: Adapted from Rahill (2021). Note: X indicates the use of a given process or procedure.

Another very commonly used institutional mechanism to screen out the highest-risk projects is the use of exclusion lists or divestment commitments. Almost all DFIs studied here have either a formal or informal commitment to refrain from supporting certain activities with particularly high environmental or social risks. Other, more informal divestment pledges have begun to appear, in which DFIs agree to align their lending activities with climate change mitigation goals, often by eliminating coal finance from their portfolios. For example, the World Bank does not have a formal exclusion list but eliminated nearly all financing for coal. Japan has tightened its lending rules on coal, but to such a minor extent (only extending coal financing to countries that have instituted decarbonization plans) that it does not merit inclusion here as an exclusion list.

It is also noteworthy that lender-based safeguards are not wholly incompatible with reliance on country systems. Indeed, several of the largest DFIs studied here (AIIB, ADB, and the World Bank) rely on them under specific conditions, depending on the strength of those local standards.

Box 3.2 Coal: A Special Case in Lending Exclusion

Exclusion lists are an important tool for DFI risk management, and perhaps no sector has garnered as much international attention in this regard as coal (see for example Himberg, Xu, and Gallagher 2020; Nakhooda 2011; Steffen and Schmidt 2019). DFIs have increasingly distanced themselves from coal finance, with some instituting formal commitments in this regard. Notably, this has included Japan, the top source of coal finance for newly operating plants in recent years (GEM 2021). Since 2013, no global or regional DFI studied here has directly financed coal projects, and some are actively embracing their role in supporting green energy transitions (see for example CAF 2020; Gombar 2021; World Bank 2020).

In 2013 the World Bank ushered in a new era by limiting its support for coal to "rare circumstances" (World Bank 2013). It has not directly financed any coal-fired power plants in the last decade (World Bank 2013, World Bank 2020). It has also begun to proactively support countries with long histories of coal development in their strategies for a "just transition" (shifting away from coal without harming coal-dependent communities and livelihoods) through programs such as the Platform Imitative in Support of Coal Regions in Transition (World Bank 2019).

The IFC has also not explicitly banned all coal support, but has enacted a "30 by 30" policy to increase climate-related lending to 30% of its portfolio and reduce coal support to zero or near-zero by 2030 (IFC 2020). It has also enacted restrictions on the use of its investments in financial intermediary institutions: they must "ringfence" IFC support to ensure that it does not support coal activities.

The ADB is the only one of the regional DFIs studied here to adopt a formal policy against coal-related finance (ADB 2021), though none of these regional DFIs have actively supported coal plants since 2013. The AIIB's Energy Sector Strategy (AIIB 2018) does not specifically exclude coal finance, but the bank's president has committed to avoiding it, stating that "the AIIB will not finance any projects that are functionally related to coal" in a 2020 interview (Farand 2020). Finally, while CAF does not have a formal prohibition on coal projects, recent annual reports show no record of coal finance in the last 20 years (CAF 2020).

The bilateral institutions show a variety of approaches. In March 2021, JBIC became the first of these to announce it would no longer accept applications for coal projects, although its peer JICA has not yet made any such a commitment, and is currently supporting the Matarbari coal-fired power plant in Bangladesh (JICA 2019, Proctor 2021). The DBSA recognizes the historically important role that coal has played in Southern Africa but makes no reference in recent annual reports to coal support, and has instead begun new initiatives to support just transitions. In fact, it has financed more regional renewable energy projects (33) than any other DFI (DBSA 2021; Muñoz Cabré et al 2020).

3.1.4 Implementation and Monitoring

Once a proposal has been approved, international DFIs continue to provide oversight and support, through monitoring, assistance in information disclosure, and independent accountability mechanisms to resolve problems that may arise in the course of project construction and operations. Where borrowing countries find themselves with unsustainable debt burdens, international DFIs have also participated in sustainability-enhancing debt renegotiations, including debt swaps for conservation or climate change mitigation or

adaptation projects. Newly emerging instruments such as nature-linked bonds have open even more avenues for environmental management in development finance for the future.

Table 3.5 shows a wide variety of institutional mechanisms for oversight of projects already approved. As above, JBIC, JICA, and CAF have the sparsest coverage, having adopted only two or three of the requirements. The project management mechanisms detailed in Table 3.5 show the variety of approaches to the co-governance of projects with local governments, who oversee the day-to-day details of project construction and operation. One of the most common approaches is to empower local communities to communicate directly with the DFI in the planning as well as implementation stages. During the planning stages, access to information and stakeholder consultation processes can expose project risks that may not have been immediately clear in feasibility studies and ESIAs. Once projects are underway, complaint and grievance mechanisms can expose harm before it becomes a danger to the project itself or surrounding communities.

Table 3.5: DFI E&S Risk Management Processes and Procedures during Implementation

	Global		Regional			Bilateral		
	WB 2016	**IFC** 2012	**ADB** 2009	**AIIB** 2019	**CAF** 2015	**DBSA** 2020	**JICA** 2010	**JBIC** 2015
Disclosure requirements								
Disclosure of lender-produced documents - ongoing during implementation	X	X		X			X	X
Facilitation of disclosure of borrower-produced documents	X	X	X	X		X	X	
Supervision and monitoring								
Use of independent / third party monitors	X	X	X	X	X	X		
Lender determination of Broad Community Support / FPIC	X	X	X	X		X		
Project completion provisions	X		X	X	X	X		
Special provisions for highest risk / complex operations		X		X		X		
Accountability mechanisms								
Independent accountability mechanism IAM	X	X	X	X		X	X	X

Source: Adapted from Rahill (2021).

Box 3.3 Transparency Plus: Special Considerations with regard to Gender and Ethnicity

In addition to the general requirements described in Tables 3.3 and 3.4, many DFIs have come to recognize the importance of targeted outreach to heavily affected communities and segments of communities. In particular, stakeholders may be affected differently by environmental harm along their ethnic and gender divisions.

As described in detail in the 2020 CCICED Special Policy Study on the Green BRI and 2030 Agenda for Sustainable Development (Zhou, Shi, and Gallagher, 2020), many agricultural communities divide daily tasks by gender, meaning that men and women interact differently with their natural environments.

Women are often tasked with household food production while men are employed for pay, so that women's tasks are more directly impacted by damage to water or soil, for example. That gendered division of labor means that damage to biodiversity often impacts women to a greater extent than men, with a cascading impact on household food security and the community as a whole. However, societies with gendered divisions of labor often also have gendered divisions in community gatherings and discussions, so that women's concerns may not be heard in community-wide meetings. For this reason, many DFIs now recognize the importance of taking gender into account in the transparency requirements shown in Table 3.4. For example, the Convention on Biological Diversity's 2015-2020 Gender Action Plan (CDB 2017) calls for calculating project costs and benefits separately for men and women in stakeholder communities. A 2019 inter-DFI report – with participation from the ADB, AIIB and World Bank, among others – recommends incorporating gender in transparency and accountability mechanisms.

Environmental impacts are also experienced differently across ethnic lines, particularly among indigenous communities. While these communities have tremendous diversity among themselves, two common attributes are the continued use of traditional livelihoods that depend on intact ecosystems (such as hunting, fishing, and gathering) and incomplete property rights (such that the lands and waters that have traditionally supported them may not be legally recognized as theirs). For this reason, many DFIs have enacted special provisions to ensure that their needs are taken into account in project preparation and oversight. All of the global and regional DFIs profiled here have specific policies for incorporating indigenous input in project planning and accountability, minimizing or mitigating environmental harm that impacts them, and compensates them for any unavoidable loss or displacement.

3.1.5 Sustainability-enhancing Debt Renegotiation

In cases where borrower debt levels become unsustainable, DFIs have actively participated in sustainability-enhancing debt renegotiation. These may take several forms, but generally include collaboration between borrower and lender to convert existing debt repayment commitments into conservation or climate projects. Crucially, this type of arrangement does not involve imposing conditionality on debt restructuring or forgiveness, but requires debtor nation leadership, usually over a period of years, to plan for the structure and management of the new funds ("The Initiative" 2019; "Seychelles Marine" n.d.).

When implemented well, debt-for-nature swaps can allow chronically indebted countries an alternative to environmentally-damaging activities to pay down debt. They can also create an institutional structure to oversee the establishment of definitions of sustainable economic activities appropriate for the newly protected areas, and the fiscal space to ensure that the new protections are well-managed, with adequate participation from local communities to ensure enforcement. However, these swaps are not quick fixes for debt crises, nor can they bring a sudden stop to ongoing ecological disasters. Establishing the conservation areas is a process of multiple years. Thus, rather than being used as a last resort or rescue option for disaster scenarios, it is best considered as a long-term, pro-active approach to conservation. In this regard, they are well-suited to the needs of borrowers currently planning sustainable recoveries from the COVID-19 pandemic.

As countries face the challenge of rebuilding from the COVID-19 pandemic amidst debt overhangs, bilateral sustainability-enhancing debt renegotiation is likely to play an important role. In addition to traditional swap mechanisms, new instruments such as nature-linked bonds

may be particularly useful in the current context. These instruments link repayment terms to borrowers' progress toward sustainability goals, but the funds are not linked to specific projects. Thus, borrowers may use them to fund immediate humanitarian efforts while their overall sustainability goals also become more affordable. They may be particularly attractive for bilateral creditors, who can easily convert existing debt to such bonds, and may even choose to denominate them in their own currencies. While these new instruments may be particularly well-suited for bilateral creditors, they are drawing attention from multilateral lenders as well. They have received attention from multilateral creditors such as the ADB (Bhandari 2020) and the World Bank (Caputo Silva and Stewart 2021).

3.2 Environmental Management Mechanisms for ODA of Japan and South Korea

China, Japan, and South Korea are the three major economies in East Asia and the signatories to the Regional Comprehensive Economic Partnership (RCEP). Their total GDP accounts for more than one fifth of the global GDP, which enables them to play a significant role in the global economy. Among them, Japan and South Korea used to be the key components of the ancient Silk Road, and now the major participants of global outbound investment activities. In 2019, Japan and South Korea ranked the 1st and the 11th among all countries in terms of foreign investment amount, which became the 3rd and the 10th in 2020.[18] Thus, this chapter focuses on Japan and South Korea to review the environmental management mechanisms in their Official Development Assistance (ODA), including the system design, policy making, specific practice, and experience gained, which can serve as useful references for BRI projects to carry out environmental management.

3.2.1 Environmental Management in ODA of Japan

3.2.1.1 Management Mechanisms

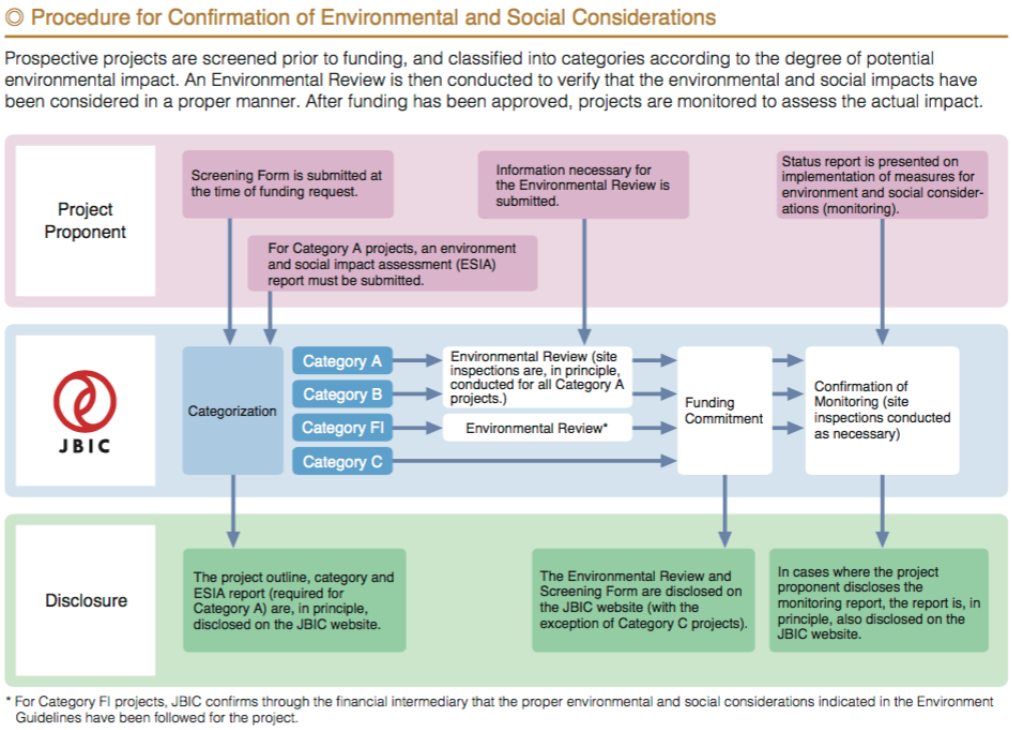
In 1988, Japan became the biggest ODA provider in the world. However, as its ODA recipient countries failed to mitigate damages to the local environment in their process of development, Japan's ODA received persistent criticism from the world. In response to such criticism, Japan began to explore approaches to providing ODA in a way that assist other countries to develop and at the same time urge them to consider environmental protection. In other words, Japan aimed to extend the original ODA to "green ODA". Thus, the following management mechanisms have been put into place:

Firstly, specialized agencies were set up to formulate guidelines for environmental protection. In 1986, the Japanese Ministry of Environment held a seminar on environmental conservation for ODA projects. In 1988, it established an environmental research institute under JICA. Built on the research results of the institute, environmental guidelines were formulated by JICA and Overseas Economic Cooperation Fund (OECF) and then incorporated into the Outline of Japan's ODA Activity after being approved at the cabinet members meeting in 1992, stipulating

[18] Source: World Investment Report, https://unctad.org/topic/investment/world-investment-report

that environmental protection and economic development are equally important.

Secondly, environmental and social standards and principles for overseas investments have been developed. In order to reduce the environmental impacts of overseas investment projects, JICA and JBIC formulated environmental guidelines respectively such as Guidelines for Environmental and Social Considerations and JBIC Guidelines for Confirmation of Environmental and Social Considerations, so as to implement the projects according to environmental guidelines with full consideration of their social and environmental impact to the region.



Projects are classified into one of the following four categories in relation to the degree of environmental impact, based on the information provided by the project proponent during the screening process.

Category A	Project with the potential for a serious and adverse impact on the environment.
Category B	Project with the potential for an adverse impact on the environment, but less than that of Category A projects.
Category C	Project with the potential for minimal or no adverse impact on the environment.
Category FI	Project for which JBIC provides funding to a financial intermediary, and after acceptance of JBIC funding, the financial intermediary selects and conducts screenings for specific subprojects, in cases where subprojects cannot be determined prior to acceptance of JBIC funding, and where such subprojects are anticipated to have an impact on the environment.

Source: The Role and Function of the Japan Bank for International Cooperation. JBIC. https://www.jbic.go.jp/ja/

Figure 3.1 "Procedure for Confirmation of Environmental Considerations" Prior to Funding Decisions in JBIC

Thirdly, multiple agents including the government and non-governmental organizations have been working together to boost environmental protection efforts in ODA. Citizen leagues and civic groups have been monitoring and criticizing environmental issues in ODA practice via media, which forced Ministry of Foreign Affairs to focus on the quality of ODA operations,

and especially the formulation of related environmental policies and guidelines.

3.2.1.2 Good Practice

Firstly, a clear and green foreign investment strategy has been put in place. Japan has actively bid for the 8th Meeting of Conference of Parties (COP 8) to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and joined the International Environmental Technology Center (IETC) under the United Nations Environment Programme (UNEP). By so doing, Japan has put environmental issues on the government's agenda and gradually formed a consensus on environment within the government. As a result, green measures for ODA are implemented from top to bottom. From 1986 to 1996, the proportion of ODA directed at environmental issues increased from 4% to 27%.

Secondly, special agencies have been established to formulate and implement environmental guidelines. Japan guides its domestic enterprises to participate in overseas aid and investment projects through JICA and JBIC, and reduces the project impacts on the environment of recipient countries by formulating a series of environmental planning guidelines and application procedures. In the process of implementation, JICA and JBIC are responsible for whole life cycle evaluation and monitoring of these projects. Once the implementation is confirmed to be in violation of environmental regulations, punitive measures will be adopted to rein in or even stop loans.

Thirdly, the Japanese government has accelerated the overseas layout of its green industries in the process of assisting host countries to solve environmental pollution and develop green industries with technical support. Besides enhancing the green level of environmental management for ODA and overseas investment projects, Japan also makes active use of advanced environmental protection technologies to enhance host countries' capacity to deal with its environmental pollution, and "transfer" green industries to the host countries. On one hand, Japan creates new opportunities for the development of green industries in the host countries, and helps to satisfy local residents' needs for employment and economic development; on the other hand, it assists Japanese enterprises to cooperate with host countries in a more positive way while enhancing its national visibility and soft power, thus promoting domestic economic growth.

3.2.2 Environmental Management in ODA of South Korea

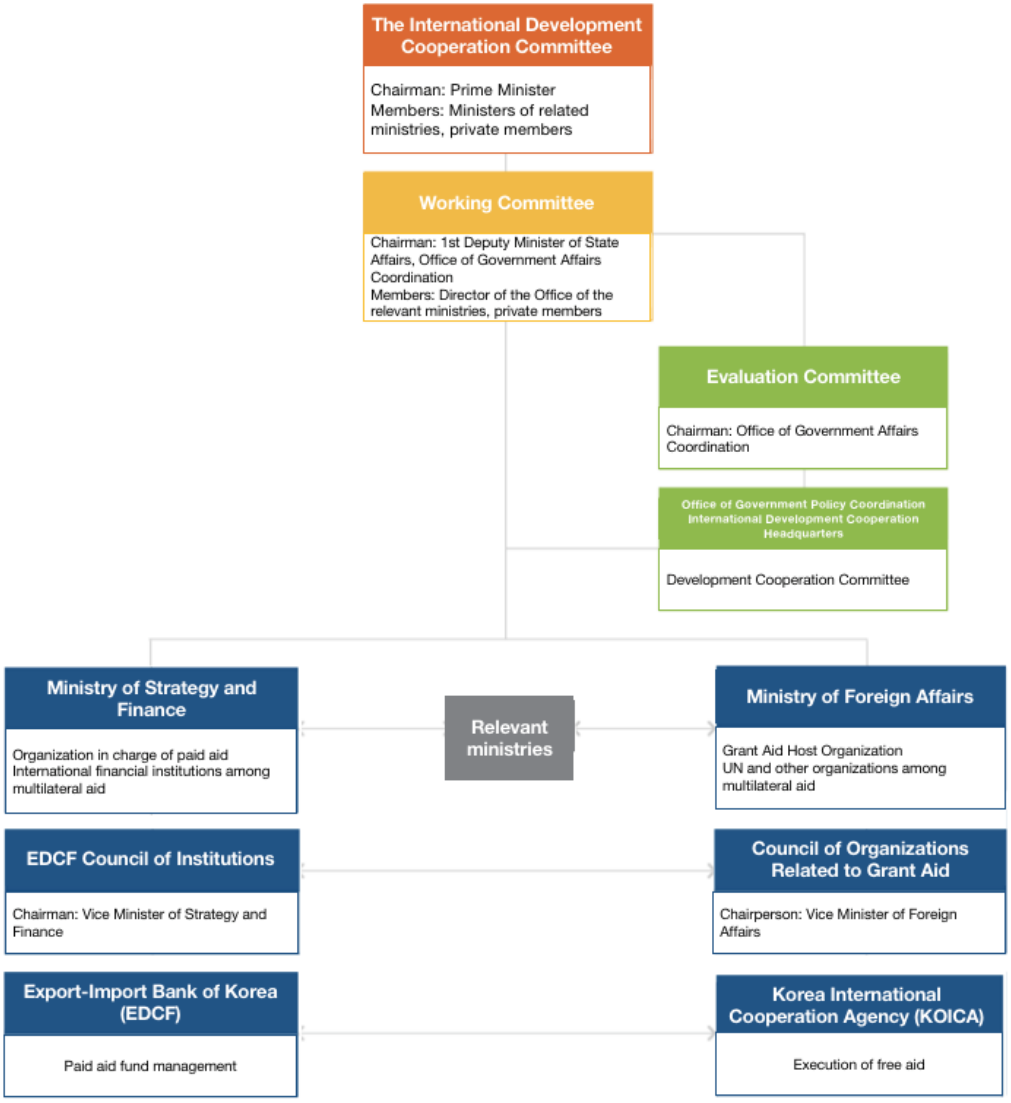
3.2.2.1 Management Mechanisms

South Korea's ODA history can be divided into two stages – before and after joining the OECD in 1996. After joining the OECD, especially since its entry into Development Assistance Committee (DAC) of OECD in 2009, South Korea has gradually formed a systematic and well-established ODA system.

In January 2006, South Korea set up the Committee for International Development Cooperation (CIDC) directly under the Prime Minister's jurisdiction in order to strengthen unified management of ODA policy implementation. The Committee has had two parallel

organizations, Korea International Cooperation Agency (KOICA) and Economic Development Cooperation Fund (EDCF), chaired by South Korea's Ministry of Foreign Affairs (MOFA) and Ministry of Strategy and Finance (MOSF) respectively. The CIDC, as an institution under the Prime Minister's Office, is chaired by the Prime Minister of South Korea. The responsibilities of the Committee are to deliberate on the plans and reports formulated by MOSF and MOFA for concessional loans and grant aids, and to conduct evaluation.

By establishing KOICA under the Ministry of Foreign Affairs and EDCF under the Ministry of Strategy and Finance, South Korea has built a mature ODA management system which can realize unified management with two sub-organizations each responsible for one sector, thus ensuring both a clear division of labor and a unified strategy. KOICA is mainly responsible for the formulation and implementation of grant aids, covering main areas such as material supplies, emergency relief, development investigation, application for graduate students, overseas volunteer activities, cooperation with international institutions, and implementation of grant aids projects. The organization is also responsible for the formulation of basic plans and annual implementation plans in various fields as well as the evaluation of project implementation. By contrast, EDCF, operated by the Export-Import Bank of Korea, is mainly responsible for the formulation of basic plans of concessional loans and implementation plans of the current year, collection and use of foreign aid funds, as well as direct provision of funds or provision of loans through international financial institutions to recipient countries.



Source: 대한민국 ODA 통합홈페이지 국제개발협력위원회
구성: https://www.odakorea.go.kr/ODAPage_2018/category02/L04_S01_01.jsp, 2021.03

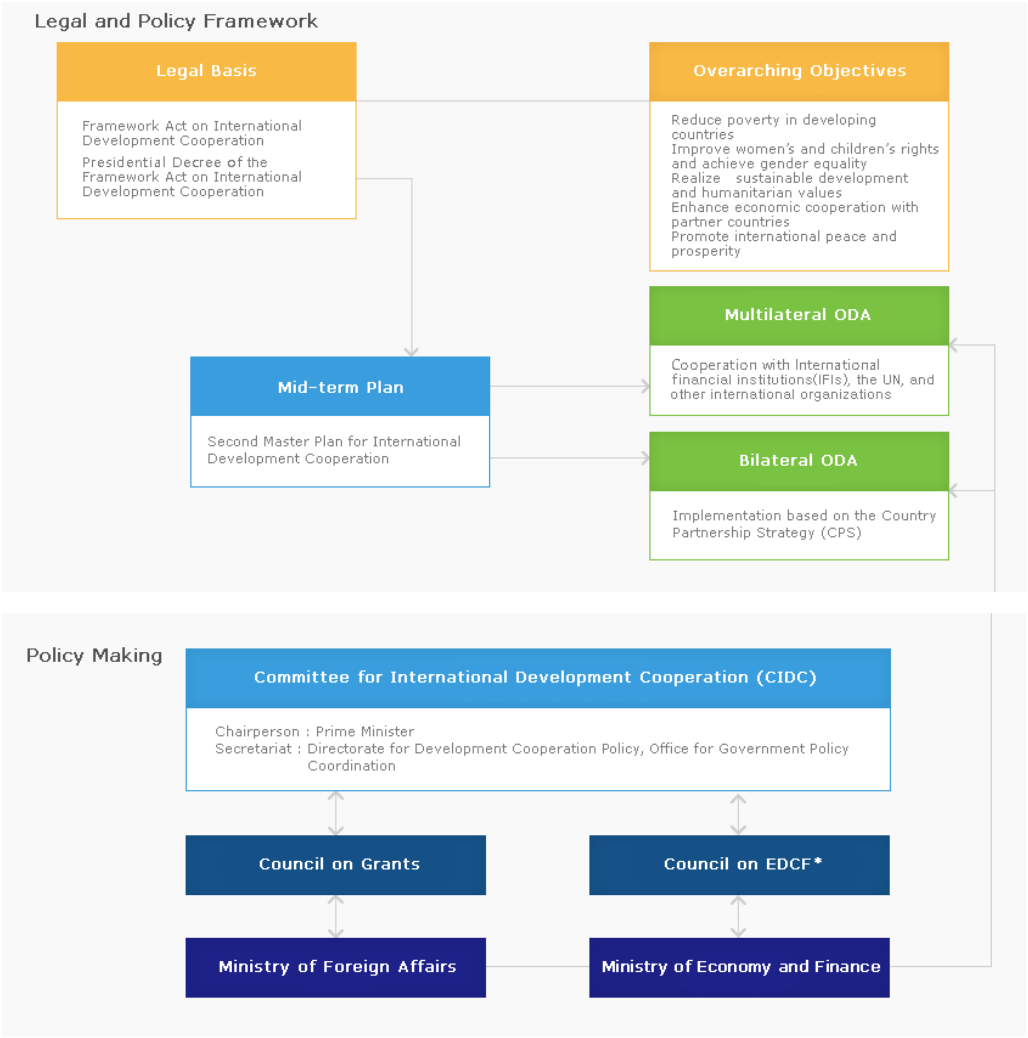
Figure 3.2 Organizational Structure of ODA Management in South Korea

3.2.2.2 Good Practice

Firstly, a well-structured legal system for overseas investment has been established and due attention been paid to sustainable development. On December 26, 1986, South Korea enacted its first law on foreign investment, *Korea Economic Development Cooperation Fund Act*, which came into force on April 23, 1987. "Sustainable development and humanitarianism" is defined as one of the five major principles in the Act. The Act provides a legal basis for the establishment of EDCF, which stipulates that EDCF is under the jurisdiction of the Ministry of Strategy and Finance, and sets up a fund operation committee to operate and manage the fund. This Act, together with other relevant basic laws related to KOICA promulgated in 1991, constitutes the early regulatory system of South Korea's foreign investment policy. In order to further prioritize foreign investment from institutional level, South Korea promulgated the *Framework Act on International Development Cooperation* in January 2010, which came into

effect in the same year. The law has clarified the purpose and definition of development assistance, explained the basic concepts and principles of foreign investment policy, stipulated the mechanism and mode for the implementation of the policy, and ensured the continuity of South Korea's foreign investment policy.

Secondly, a planning and implementation system to achieve UN's sustainable development goals has been finalized. Under relevant laws and regulations, South Korea plans to deploy its overseas investment based on planning. The top-level plan is the five-year *Strategic Plan for International Development Cooperation* (referred to as the Plan) which serves as a strategic document for South Korea's bilateral cooperation (grants and loans) and multilateral cooperation. The Plan points out the basic direction, scale and implementation method of policies on international development cooperation with clear planning for medium-and long-term investment plans for major countries of cooperation. With the promulgation of the Plan, South Korea's foreign investment policy is elevated to the level of national strategy.



Source: 대한민국 ODA 통합홈페이지 추진체계 : https://www.odakorea.go.kr/ODAPage_2018/category02/L04_S01_01.jsp, 2021.03

Figure 3.3 Implementation System for ODA Management in South Korea

At present, the Plan has been updated for three times, with sustainable development, environmental protection, and green development as an integral part. Safe Guards are also

specified in the evaluation system of *The Third Strategic Plan for International Development Cooperation (2021-2025)* of South Korea. These Safe Guards regard minimum impact on the environment, society and human rights during the whole life cycle of project implementation as the basic obligation.

Thirdly, a full-cycle and multi-faceted evaluation mechanism is implemented. As an important part of policy implementation, the evaluation mechanism for South Korea's ODA can well serve its role in improving policy preparation, guiding policy implementation, and correcting mistakes in policy implementation. The evaluation mechanism runs through the whole life cycle of investment, including early feasibility study, mid-term evaluation and post assessment. On this basis, South Korea also evaluates the implementation of investment projects based on "self-assessment, assessment by evaluation committees, peer review among OECD countries and third-party assessment by non-governmental organizations". It adopts a set of evaluation standards that derive from OECD's evaluation standards with major principles including moderation, efficiency, effectiveness, impact, and sustainability.

3.3 Summary

As this chapter has demonstrated, DFIs have undergone significant convergence on their management of environmental risks in their lending portfolio. DFI risk management systems with the most recent reforms also have the most comprehensive set of considerations covered by their systems, showing a growing understanding of the importance of this work. Furthermore, several components of risk management have gained near-universal adoption, indicating that these practices are essential for any DFI interested in adequately addressing environmental concerns.

First, a world-class environmental risk management system begins with upstream engagement, working with borrowers to develop portfolios of projects that are both environmentally and financially sustainable. This process puts the lender's expertise at the service of borrowing countries, to develop their priorities into specific high-quality project proposals. While DFIs' approach to this upstream engagement varies, it coalesces around three categories of work: strategic project planning, technical project preparation, and financial assistance for pre-investment studies.

Once borrower submits project proposals, high-quality environmental management systems apply screening steps to protect the reputational and financial interests of the lender. One common element of screening steps includes the use of exclusion of certain sectors or corporations that have been deemed too risky, such as coal financing or contractors with poor track records. Additional risk screening considerations include a given project's expected impact on pollution, greenhouse gas emissions, biodiversity, and ecosystem services.

During project construction and operation, the proactive DFIs shifts focus from estimating the likely risks and toward monitoring the implementation to ensure that the developers' plans and promises are met. To ensure a full understanding of project performance, DFIs prioritize and rely on independent third parties for project monitoring. They also regularly assist with the publication of project-related documents, so that any stakeholder may bring performance issues

to the attention of the lender or developer. Finally, a world-class environmental risk management system is completed with an independent accountability mechanism to receive and consider grievances from the public.

As members of OECD-DAC, Japan and South Korea have similar practices in ODA environmental management with those of DFIs. At same time, their practices fully demonstrate the positive role of the "sovereign subjects" in developing policy systems and management mechanisms. Their successful experience can be further summarized as follows:

Firstly, it is important to fully consider the demands of host countries, pay close attention to the challenges faced by them in response to climate change and environmental protection, explore the full process of integrating high-quality, sustainable, risk-resisting, affordable and inclusive goals into project construction, and earnestly improve the environmental protection capacity of BRI countries. Meanwhile, efforts should be made to increase green investment into host countries, and facilitate green and low-carbon transformation and upgrading of traditional polluting industries in host countries by utilizing investors' advantages in green technologies and industrial development.

Secondly, it is necessary to set up a full-cycle, multi-faceted evaluation mechanism for investment projects. A full-cycle evaluation mechanism should be adopted for foreign investment projects. At the early stage, feasibility reports and EIA reports should be mandatory. In the process of implementation, effective monitoring and inspection are crucial to guarantee the compliance in implementation. When the project is completed, continuous evaluation and feedback of project operation is recommended to summarize experiences which can be referred to and learnt by future investments of the same kind.

Thirdly, the role expatriate agencies should be emphasized. It is important to enhance the professional staffing for expatriate agencies in key investment industries and ecological and environmental sectors. The government needs to help enterprises gain a deeper understanding of laws, regulations, customs, and values of host countries, and adopt more effective localization strategies. Moreover, effective mitigation and reduction of environmental and social impacts on the project site and its surrounding region plays a critical role in advancing the cooperation in relevant sectors. For instance, expatriate agencies can cooperate with host countries to jointly investigate regional ecological environment. They can set up localized communication channels to guarantee adequate communication with local governments, enterprises, residents and NGOs in host countries during the whole life cycle of the project, so as to ensure smooth project implementation and effectively minimize environmental and social impacts of the project.

4. POLICY RECOMMENDATIONS

Based on the above studies, this chapter puts forward targeted policy recommendations on promoting the full alignment of Green BRI with 2030 Sustainable Development Agenda, with particular focus on the environmental management for BRI investment and financing. At the strategic level, the recommendations outline 4 priority areas for BRI green investment and financing to support sustainable development. At the public governance level, there are 4 policy recommendations on guiding non-governmental entities to practice environmental management. At the level of practical implementation, 5 pillars are proposed to enhance whole life cycle environmental management for BRI investment and financing projects. These recommendations aim to establish an environmental management system for BRI investment and financing, as well as guide and support BRI green development.

4.1 Priority Areas for Boosting Sustainable Development in Overseas BRI Projects

4.1.1 Broaden the Scope of BRI Alignment to Specifically Incorporate SDG 7[19]/12[20]/13[21]

Global climate change has become one of the major challenges for human survival and development in the 21st century. [22] The intensity and total amount of carbon dioxide emission of some BRI participating countries are not outstanding due to their economic development model and level. However, BRI has gathered many emerging economies with the most growth potential and vitality. Considering the potential of economic growth and sensitivity to climate change of BRI participating countries, incorporating the goals to deal with climate crisis and conserve biodiversity into the development of green Silk Road and cooperation with overseas BRI projects, fostering synergy among SDGs, and facilitating cooperation in areas such as green infrastructure, green energy and green finance, will be vital for BRI participating countries to achieve sustainable development and realize green and low-carbon recovery in the post-pandemic era.

Box 4.1 Highlighting Sustainable Development of the Host Country: Second Wind Farm of Three Gorges Pakistan Wind Power Generation Phase II Project

The Second Wind Farm of the Three Gorges Pakistan Wind Power Generation Phase II Project (hereinafter referred to as the Second Wind Farm) is one of the actively promoted projects along the China-Pakistan Economic Corridor (CPEC). It is located in the Tata area of northeastern Karachi City, Sindh Province, southern Pakistan, with a total site area of 2.75km^2. It has 33 wind turbines with installed capacity of 1.5MW per unit and 49.5MW in total. The project is invested and constructed by the China Three Gorges International Corporation (corporate's own capital accounting for 25% and bank loans for the rest), and adopts BOO (Building-Owning-Operation) model. According to the franchise agreement and energy purchase agreement (EPA) between China and Pakistan, the project is constructed, operated and managed

[19] Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.
[20] Goal 12: Ensure sustainable consumption and production patterns.
[21] Goal 13: Take urgent action to combat climate change and its impacts.
[22] IPCC AR5. Intergovernmental panel on climate change fifth assessment report (AR5) [R]. London: Cambrige University Press, 2013.

by Three Gorges Pakistan Second Wind Power Company. The project started in January 2016 and was put into commercial operation in June 2018. All generated power is sold to Pakistan Central Power Purchasing Agency (CPPA-G).

Aerial View of the Second Wind Farm

Pakistan relies mainly on thermal power, with hydropower as supplement. The power supply is tight, and the energy demand keeps growing at medium to high speed. The Second Wind Farm is a typical case of new energy cooperation between China and Pakistan, with an annual power generation of about 100-150 million kWh. It provides clean power to Karachi, the largest city in Pakistan, and reduces the consumption of fossil energy in the region, which is of positive significance for protecting ecological environment, reducing greenhouse gas emissions and exploring green development of Pakistan's economy and society. In addition, the Second Wind Farm has trained a large number of engineering construction management talents for the localities, employing more than 30 middle and senior engineering and technical management personnel on site. It has built or renovated about 30 kilometers of roads, which has played an important role in stimulating local employment, improving people's livelihood and strengthening infrastructure construction. Besides, the project has always paid attention to social welfare, donating a large number of teaching supplies to primary schools near the project site, which improved the hardware facilities of the schools.

4.1.2 Promote a Common Understanding of the Definition of Green Investment among BRI Participating Countries

With the communication and dissemination of the concepts of ecological civilization and green development, and the deepening global understanding of the importance of the 2030 Agenda for Sustainable Development, green investment has been widely accepted and welcomed by countries all over the world as a new field of sustainable investment. It is thus recommended that China develop a catalogue or taxonomy to clarify the scope and standards of green BRI investment and further engage in the formulation of green investment standards in the host countries and those at international level. This would facilitate the benchmarking and convergence of green investment standards in China, BRI participating countries, and the

international ones, assist public and private sectors to identify green projects efficiently, and enhance the funding for sustainable development of the BRI.

4.1.3 Increase the Support and Guidance from Public Sector for BRI Green Financing

Investment and financing has a particularly important role in guiding positive actions and facilitating positive changes. Public sector participation is an indispensable supporting force for green financing development. It is suggested making coordinated use of public sector resources such as preferential policies, financial support and ODA to direct and encourage international investors, and investors from both public and private sectors in BRI participating countries to the environmental, social and governance (ESG) responsible investment with ownership. Based on the projects' demand for green investment and financing management, it is recommended to explore and establish a BRI green investment and financing evaluation system and give full play to the guiding role of investment and financing in the construction of a green Silk Road. It is necessary to develop a green performance evaluation methodology according to internationally accepted green certification standards, bring in third-party evaluation institutions in the evaluation practice, develop standardized and differentiated green assessment tools, summarize green management experience, incorporate evaluation results into foreign economic cooperation credit records, and put in place incentive and accountability mechanisms as appropriate.

4.1.4 Strengthen International Cooperation, Communication, and Capacity Building

It is recommended to promote communication and regulatory cooperation in key areas such as top-level/upstream planning, pollution prevention, environmental governance, biodiversity conservation, climate change response, as well as green and low-carbon transition. It is necessary to enhance cooperation with development financial institutions as well as bilateral, multilateral and regional financial institutions in environmental management, and facilitate the green and low-carbon transformation of the economic systems in the BRI participating countries through joint efforts from relevant countries. Such programs as Belt and Road South-South Cooperation Initiative on Climate Change and the Green Silk Road Envoys Programme should be well used for capacity building to assist BRI participating countries to establish and improve their green finance system and environmental management systems for investment and financing. Make good use of existing multilateral cooperation mechanisms such as the Belt and Road Initiative International Green Development Coalition (BRIGC), the Belt and Road Ecological Big Data Service Platform, and the BRI Green Investment Principle (GIP) to strengthen information and experience sharing among BRI participating countries, and disseminate best practices in environmental and climate management by BRI projects, so as to improve the green reputation of the BRI projects, and attract the participation of global responsible investors.

4.2 Policy Recommendations for Non-Governmental Entities to Practice Environmental Management for BRI Investment and Financing

4.2.1 Financial Institutions: Facilitate the Improvement of a Hierarchical Classification and Management System for BRI Projects

It is recommended to further improve the Green Development Guidance for BRI Projects and strengthen the risk identification, risk quantification and risk exposure management of industries with prominent environmental and climate risks. Based on such eco-environmental protection and climate goals as pollution prevention, biodiversity conservation, efficient energy use, and climate change mitigation and adaptation, establish the positive/negative list of green investment, project classification standards, and technical guidelines for green projects, and practice green investment identification accordingly. Facilitate the construction of sub-platforms including the BRI green project library and the environmental risk management module for BRI investments under the Belt and Road Ecological Big Data Service Platform.

4.2.2 Project Sponsors and Owners: Build an Environmental and Climate Risk Screening and Impact Assessment Framework for Projects

To promote the effective practice of green management in BRI projects at the implementation level, it is necessary to set up a framework for environmental and climate risk screening and impact assessment in the whole lifecycle of the project from the project planning stage. (1) At the project selection stage, it is necessary to examine the risk management ability and practice of the project contractor, and complete the preliminary screening of project risks and impacts. (2) At the stages of project planning and scheme design, a more detailed environmental impact and climate risk assessment should be carried out, with review of management qualification of the selected contractor. (3) Policy compliance review should be carried out under the framework of the host country's foreign investment, environmental management and corporate social responsibility rules. (4) At the project implementation stage, continuous project reporting, monitoring and evaluation should be conducted. Self-monitoring by the contractor and independent monitoring and evaluation are required according to the project contract content, the agreement with the project investor and the regulatory requirements of the host country and the countries where project stakeholders are located. Corresponding information should be made public at major project milestones on the timeline.

In addition, the framework should pay special attention to gender equality elements, and identify possible impacts of the project on women's rights and interests in their communities, and the contribution of the project in improving women's employment and protecting women's development rights and interests in local communities, so as to inform subsequent projects as reference.

Box 4.2 Whole Process Green Assessment Framework for BRI Projects

To contribute to screening, evaluation and monitoring of the environment and climate friendliness of BRI projects, FECO of MEE developed in 2017 the Whole Process Green Assessment Framework for BRI

Investment Projects, covering key activities including project announcement, submission of application, investor examination, project proposal, project establishment assessment, project implementation, and project monitoring. Green assessment guidelines were prepared for the above key milestones. The following entry points are recommended for the green assessment.

(1) Project Announcement: At this stage, project applicants should provide necessary information for the investors to review and identify their qualification. In addition to the general information, for projects in 'environmentally sensitive sectors', the project applicant should provide evidence to prove that it has sufficient and appropriate environmental expertise or access to environmental expertise to ensure that environmental considerations are properly incorporated from the outset of project identification.

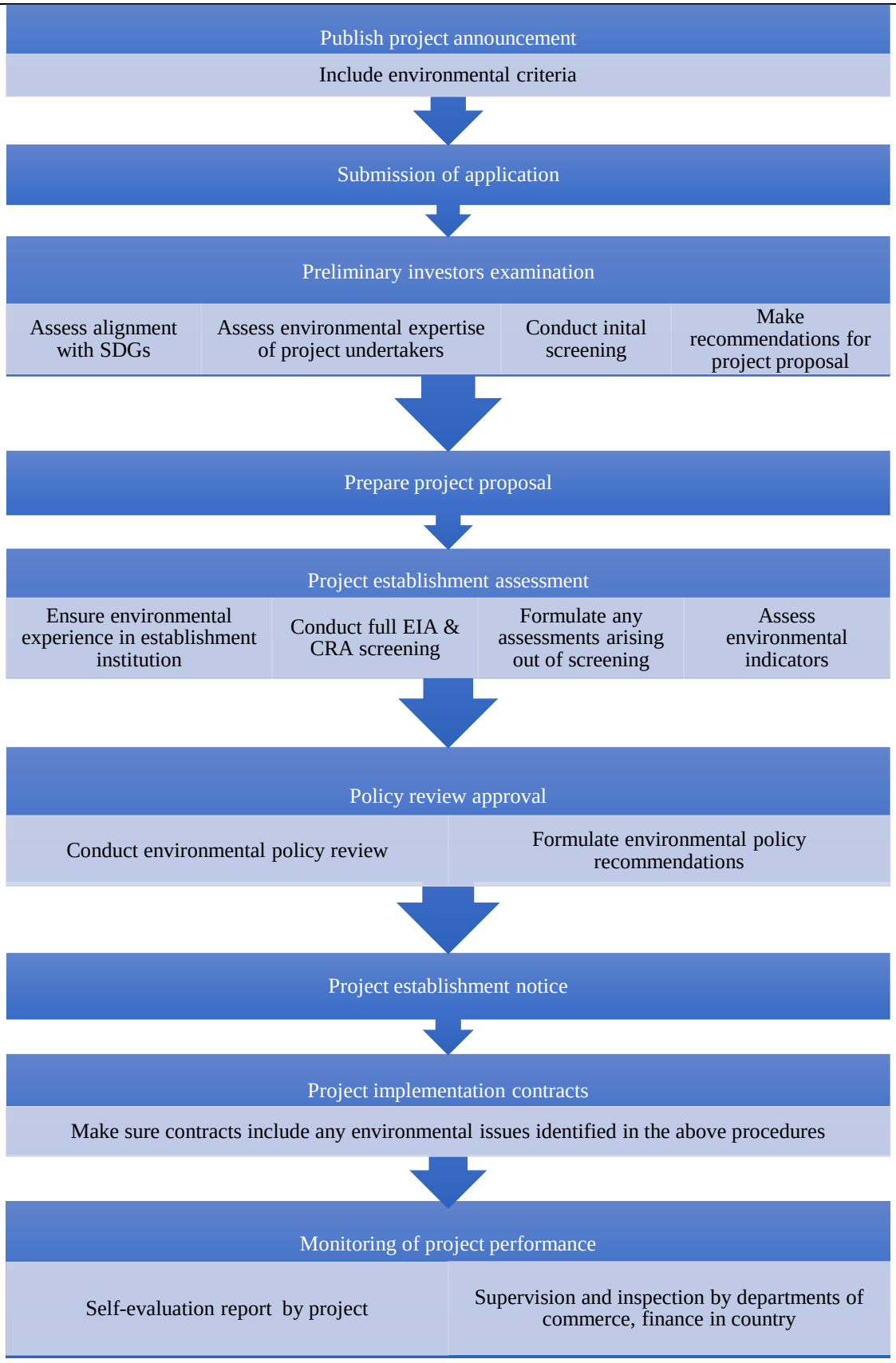
(2) Investors Examination: (i) Assessment of alignment between expected environmental impacts and environmental targets in SDGs, (ii) Assessment of applicant's capacity and expertise of environmental, climate and social impact management, and (iii) Initial environmental screening of the project.

(3) Project Establishment Assessment: (i) Articulating the environmental requirements and the requested expertise by project assessment institutions; (ii) Understanding environmental legislations of host country; (iii) Conducting Environmental Impact Assessment (EIA) and Climate Risk Assessment (CRA) and recording the assessment results; and (iv) Selecting environmental performance indicators for the project.

(4) Guidelines of Environmental Policy Review: The investors shall work with the third-party assessment institutions to assess whether the project is compliant with China's outward investment, environmental management, corporate social responsibility laws and regulations applicable to the project. For "non-compliance" projects, a project optimization proposal shall be submitted, in conjunction with the existing policies and requirements; for "compliance" projects, the procedures of submission, recording, or approval shall be implemented.

(5) Guidelines for Project Implementation Contract: Investors shall ensure that all environmental issues identified are clearly specified in the project contracts and agreements. Specifically, identified environmental indicators should be included in the environmental performance assessment framework and monitoring plan. In the cases where an EIA is undertaken, details of the environmental management plans should be included in the project contract. The contract and agreement of an investment project shall stipulate that the applicants who cannot fulfill the implantation goals are subject to proper penalties, such as loan recovery ahead of schedule or blacklisting.

(6) Monitoring during Project Implementation: (i) Self-monitoring of environmental impacts and performance, and (ii) Independent environmental monitoring and evaluation.



Overview of Entry Points for Green Assessment

4.2.3 Market Entities: Enhance the Mainstreaming Level of Environmental and Climate Management

It is suggested that various market players involved in BRI investment and financing should formulate comprehensive sustainable development strategies, closely align enterprise development with green BRI development and UN's Sustainable Development Agenda, and regard environmental protection and climate change response as an important part of fulfilling their corporate social responsibilities. It is suggested that market entities should set up special environment and climate mainstreaming management departments or working groups in their management organizations and empower project staff with sustainable development knowledge and concepts to raise their environmental awareness. The departments or working group will also be responsible for providing management training and technical guidance related to environmental and climate risks for key position managers (risk business managers of risk management departments, etc.), project contractors and other relevant parties. In this process, it is necessary to ensure that women can equally undertake management tasks and have equal access to training opportunities.

4.2.4 The Third Party Engagement: Develop Green Management Toolkit for the BRI Overseas Investment

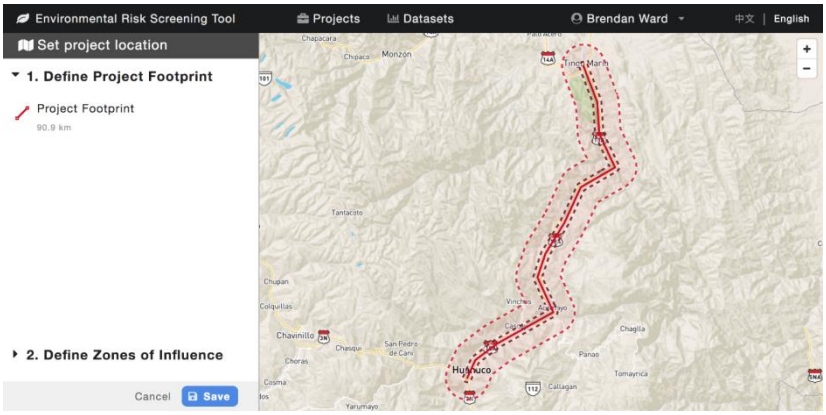
The standard system represented by *Green Industry Guidance Catalogue* and *Catalogue of Green Bond Support Projects* provides a clear basis for investors to identify the green investment direction. Information tools, such as the Whole Process Green Assessment Framework for BRI Projects, the Environmental Risk Screening Tool (ERST), the Climate and Environment Risk Assessment Toolbox (CERAT), and the Belt and Road Ecological Big Data Service Platform, have substantially improved the accessibility of environmental and climate risk and impact assessment. The above-mentioned "tools" have expanded the applicable scope and users of green management for BRI overseas investment, and at the same time improved management efficiency and operability.

It is suggested that management tools such as information system, standardized method, evaluation index system and technical specifications should be developed around key directions of target project screening, project risk identification, risk and impact assessment, classification management, gender mainstreaming, knowledge sharing and capacity building, stakeholder communication and information disclosure, and a green management toolkit for foreign investment be formed for all stakeholders to use.

Box 4.3 Environmental Risk Screening Tool (ERST)

The Environmental Risk Screening Tool for China's Overseas Investment (abbreviated as ERST) is a rapid assessment tool for environmental risks jointly developed by Foreign Environmental Cooperation Center of the Ministry of Ecology and Environment (the former Foreign Economic Cooperation Office) and the Paulson Institute in 2018 and officially launched in 2019. The tool is based on GIS and spatial analysis technologies. Using the global key ecological data and biodiversity data for analysis, ERST is applied in the fast screening of environmental and social risks in the project assessment stage. By inputting

project profiles like the country and region which the project is situated, the sector to which it belongs, and basic project information, the system can automatically create a biodiversity impact and policy compliance analysis report

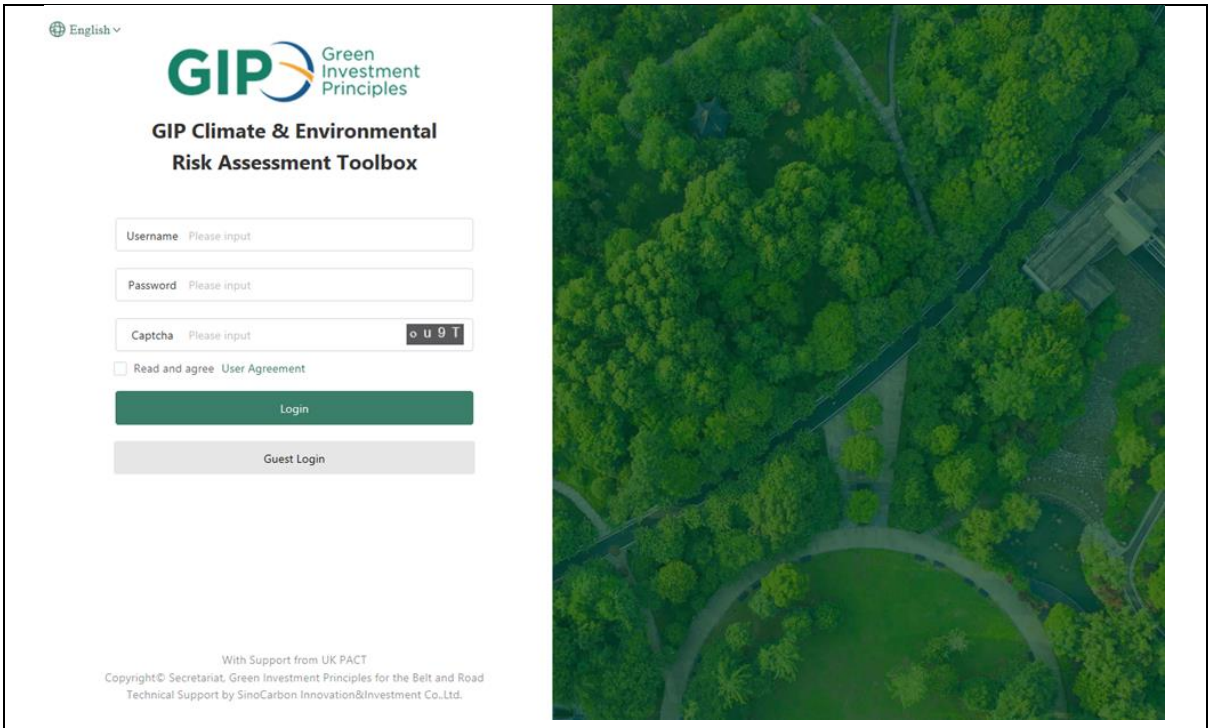


Map of Project Located Area

ERST's functions have met the application demands of various stakeholders including governmental regulators, trustees, project implementing agencies, and third-party appraisal institutions. For governmental regulators, ERST can provide international core and associated biodiversity information as a reference, so as to avoid or reduce the damages brought by the project. For trustees, the standard information of biodiversity and eco-environment, fast screening of environmental and social risks provided by ERST can help greatly reduce the management cost of investment decisions. For project implementing agencies, based on the analysis results given by ERST, the management authorities can perform accurate risk control supported by internal risk alert and emergency measures. For the third-party assessment institutions, before a deep environmental and social risk analysis, they can use the fast assessment of ERST to identify the key risk points, and greatly reduce the time and expense for the assessment.

Box 4.4 Climate and Environment Risk Assessment Toolbox (CERAT) by GIP

As a risk assessment tool primarily developed by the Working Group 1 (WG1) of Green Investment Principles (GIP) for the Belt and Road Initiative, the Climate and Environment Risk Assessment Toolbox (CERAT) is dedicated to helping financial institutions, regulators, and decision-makers identify and quantify the environmental risks and benefits of investment projects at project, investment portfolio, and strategy levels. In the first phase, CERAT provides carbon accounting for existing and new projects in industry sectors including energy, construction and transportation. Based on anticipated or actual performance, it examines compliance with existing international and national standards, then calculates the carbon emission intensity of the project, benchmarking it against regulatory requirements. The current CERAT Phase II under development includes more information on climate, environmental, biodiversity and water risks to help financial or investment institutions understand and evaluate the environmental risks of investment projects, and enhance the risk prevention ability of financial system.



Interface of Climate and Environment Risk Assessment Toolbox (CERAT)

4.3 Five Key Pillars for Full Lifecycle Environmental Management in BRI Projects

4.3.1 Build a Green Investment Governance System Applicable to All Phases of BRI Projects

Expedite the greening process of foreign investment and financing by enhancing environment management for the whole lifecycle of the projects. The lifecycle of investment projects can be divided into project screening and evaluation, project monitoring and control, reporting and information disclosure, according to the Chinese practices and international norms. Engaged stakeholders should take responsibilities to enhance the green development of project throughout the lifecycle. This should be governed and administered with participation of regulatory authorities and supporting mechanisms such as the accountability mechanism.

4.3.2 Create Exclusionary Lists

A number of global regulators and financial institutions have developed Exclusion Lists of environmentally harmful projects that shall not be funded. Projects on the Exclusion Lists include those that have severe and irreversible negative impacts on the achievement of climate, environmental, and ecological goals without feasible solutions for mitigation. It is recommended that the *Guidelines on the Evaluation and Classification of BRI Projects* ("*Classification Guidelines*" for short) be promulgated on the basis of the *Green Development Guidance for BRI Projects* (BRIGC, 2019). Based on the previous analysis of the policies and standards of other countries and development financial institutions, projects that may result in the deterioration of ecosystems – for example, coal mining, and coal-fired power plants –

should be added in the “exclusion list” and phased out of overseas investment.

4.3.3 Environmental Impact Assessment

Project sponsors/owners would screen projects pertaining to environmental and social risks and impacts. For those projects deemed to have potential environmental and social impacts, the approval and management authorities for BRI projects shall determine the scope, granularity, and management requirements of subsequent Environmental Impact Assessment (EIA) for each project based on project type and features. It is recommended that low-risk projects conduct EIA at least in accordance with the local standards in the host country; and that medium- and high-risk projects shall follow more stringent standards in the EIA, e.g. in accordance with the prevailing standards of international organizations and multilateral institutions, the Chinese standards, or other best practice.

4.3.4 Environment and Social Management System

It is recommended that all project sponsors/owners of medium- and high-risk projects shall be required to implement an Environment and Social Management System (ESM) which includes environmental and social risk responses, management plans, and monitoring plans. These sponsors/owners shall also be obliged to report regularly to the administering authorities, regulatory bodies or other stakeholders on ESM progress.

4.3.5 Information Reporting and Disclosure

Firstly, it is recommended that project sponsors/owners shall report and disclose information related to emissions, pollution, biodiversity targets and impact, risk management, strategy and governance in accordance with required standards or prevailing international standards, where the disclosed information shall be available in Chinese and the major languages of the host countries. Secondly, it is necessary for the project sponsors/owners to provide a set of easy-to-access and transparent grievance redress mechanisms, set up liaison offices, and make contact methods (phone number and e-mail address) readily available for stakeholders to express concerns. Thirdly, it is suggested that all stakeholders, including project sponsors/owners, host country governments, financial institutions, etc. should further enhance collaboration to share environmental data and best practices and enhance global data repositories on climate and biodiversity. For example, the Equator Principles encourage financial institutions to share biodiversity data of their projects that are not commercially sensitive with Global Biodiversity Information Facility (BGIF) and relevant national and global data repositories.

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ANNEX

Annex 1: Dubai 700MW Solar Thermal Power Generation Project

Solar thermal power generation is a technology that converts solar energy into heat energy and generates electricity through the process of heat-power conversion. Dubai 700MW Solar Thermal Power Generation Project is an integral part of the 950MW (photothermal and photovoltaic) hybrid project of Mohammedbin Rashid Al Maktoum Solar Park Phase IV in Dubai (hereinafter referred to as Dubai 700MW Project) and also so far the largest solar power generation project under construction in the world. This project is jointly invested by Dubai Electricity and Water Authority (DEWA), China Silk Road Fund (owning 24.01% stake) and ACWA Power, and constructed in IPP (Industry-Public-Private) mode. It is one of BRI's key projects in China and a landmark project in the Middle East market. The total investment of the project is 14.2 billion dirhams (about RMB 25.3 billion). ACWA Power is the project developer, Shanghai Electric Group, a Chinese-funded enterprise, is the general contractor of the project, and DEWA is the power buyer.

Design of Dubai 700MW Solar Thermal Power Generation Project

Dubai 700MW Project includes 3×200MW trough solar thermal power generation units and 100MW tower solar thermal power generation unit. The project started construction on March 19, 2018 and is expected to be put into production by the end of 2022. The project adopts the world's leading "tower + trough" centralized solar thermal power generation technology. It is the solar thermal power generation project being constructed with the largest installed capacity, the highest technical standards, the heaviest investment and the lowest electricity price in the world. Its tower unit is equipped with a 15-hour molten salt thermal energy storage system, while the tank unit has 11 – 13.5 hours of thermal storage. Different from the intermittent nature and instability of photovoltaic power generation, the power output of solar thermal power generation is both stable and adjustable. It can still maintain a stable power output at night. Upon completion, the Project can generate 700 thousand kilowatts of clean power per hour with the world's largest thermal storage capacity. It can provide sufficient clean power to 270 thousand families in Dubai and reduce 1.4 million tons of carbon emissions every year.

I. Environmental management strategy in the stage of project planning

a. Consistency with the Energy Strategic Planning of the Host Country. The implementation of the project will reduce Dubai's dependence on traditional fossil fuels, cut local flue gas pollutant emissions, and meet relevant principles of realizing energy diversification and increasing the proportion of renewable energy as provided in *Dubai Integrated Energy Strategy 2050*.

b. Compliance with the Host Country's EIA procedures. The EIA report of Dubai 700MW Project was submitted to Dubai Municipal Environmental Planning and Research Department (DM-EPSS) on November 7, 2016, and the environmental permit was obtained on November 27, 2016.

c. Full Consideration of Environmental Protection Requirements of Project Financing. The total investment of the project is 4.3 billion US dollars, of which 2.4 billion US dollars are loans from Standard Chartered Bank, France Volkswagen Foreign Trade Bank, Industrial and Commercial Bank of China and Bank of China. To ensure smooth financing of the project, the project fully considered Equator Principles, IFC Performance Standards and relevant requirements stipulated in the EHS Guidelines (*Environment, Health and Safety Guidelines*) of International Finance Corporation (IFC) in its environmental protection measures, and analyzed its positive role in environmental protection and coordinated social development of surrounding areas.

II. Main environmental protection measures taken during the implementation phase of the project

Main environmental impacts of solar thermal power generation projects come from two stages: construction period and operation period. During construction period, environmental impacts mainly include construction machinery noise, waste water, dust and solid waste, while during the operation period, those mainly include equipment noise, sewage and wastewater, and ecological impacts on birds, etc. To eliminate and offset potential adverse environmental impact of Dubai 700MW Project, or reduce it to an acceptable level, the following measures are taken in the process of project design and construction.

a. Noise Prevention Measures

The *Environmental Protection Regulations* issued by Dubai in 1991 requires that maximum noise of industrial enterprises should be controlled within 55dB(A) during the day (7: 00 am to 8: 00 pm) and 45dB(A) at night (8: 00 pm to 7: 00 am). In addition, the financing party requires that the noise of this project should meet relevant requirements of EHS Guidelines issued by the World Health Organization (WHO) and the World Bank (WB) on environmental noise, namely, the maximum value of noise in the whole day should be controlled within 70dB(A), and the noise increment of sensitive areas closest to the factory boundary should not exceed 3dB(A).

The noise generated during the operation of the Project mainly comes from steam turbines, generators and other equipment. The noise equipment is situated at the center of the solar thermal power plant, and the distance from the boundary at each side of the plant is more than 900m. The noise sensitive area that is closest to the factory boundary is 700m away from the north boundary, and the main noise source is about 2.8km away from the nearest sensitive area. If the attenuation of distance is considered solely, when the intensity of a single noise source is 85dB(A), the noise at a distance of 900m from the source can be attenuated to 38.1dB(A). In actual operation, considering the superposition of multiple noise sources, the noise source intensity is about 92dB(A), and the noise at a distance of 900m from the source can be attenuated to 45.1dB(A). In addition, considering the reduction effect of the mirror field (about 5dB(A)-10dB(A) reduction), it is calculated that the noise at the boundary of this project is lower than 40dB(A), which can meet the requirements of Dubai as well as the EHS Guidelines of WHO and the World Bank without additional noise control measures.

b. Sewage Treatment Measures

Dubai has stipulations concerning the quality of sewage discharged to the urban sewage system. In addition, the financing party requires that the discharge of domestic sewage in this project meet relevant requirements of the World Bank's EHS Guidelines on the discharge limit of domestic sewage.

The waste water generated during the operation of Dubai 700MW Project mainly includes domestic sewage generated by operation and maintenance personnel, concentrated drainage of desalted water system, oily waste water spilled or leaked from transformer area, etc. Considering natural evaporation conditions in Dubai area, evaporation pond is set up in this project to treat the concentrated drainage of desalted water production system, so as to realize zero discharge, and the solid waste generated after evaporation will be recovered and disposed by qualified units. Oil-bearing waste water spilled or leaked from the transformer area will be collected in the anti-seepage accident oil storage pool (the volume of the accident oil storage pool is large enough to accommodate the maximum oil storage capacity of the transformer). Anti-seepage and anti-corrosion coatings are applied to the bottom and periphery of the accident oil storage pool, and corresponding measures such as wind, rain and sun protection are strictly taken.

c. Ecological Impact Prevention Measures

Dubai 700MW Project is located in arid Gobi desert area where ecological environment is fragile. The tower facilities (with a total height of 267m) in the project may cause accidental injury or death to flying birds during the operation period, threatening the number of migratory birds. In the process of site selection, the migration path of birds has been avoided, and the project site basically has no chance of foraging or perching, thus minimizing the damage to birds. In addition, during construction, the scope of activities has been strictly limited, and the disturbance of activities on vegetation and surface has been minimized to protect surface vegetation.

d. Risk Prevention Measures of Molten Salt

Molten salt used in the solar thermal power generation project is a strong oxidizing substance. Once molten salt leaks, it may cause a fire (if it leaks into combustion source, since an oxidizing substance will result in a fire), explosion (if it mixes with phosphorus and sulfur after leaking, or contacts with organic matter, it causes combustion and explosion due to friction or impact) and environmental pollution (it will pollute the surrounding environment if appropriate measures to enclose and collect it is not adopted).

In the construction process of Dubai 700MW Project, the management of fire source, organic matter, phosphorus, sulfur and other substances has been strengthened to prevent fire and explosion caused by molten salt leakage. The storage tanks in the project adopt a sinking design with cofferdams. The total volume of the sinking and cofferdams area can accommodate all molten salt leaked from the storage tanks. Even if the tanks leak, the molten salt will solidify quickly in the air, and the leaked molten salt can be contained in the sinking area or cofferdam without spilling over.

e. Environmental Monitoring Measures

The construction unit regularly monitors possible adverse environmental impact factors in the process of construction, including noise, waste water and bird mortality. The monitoring data obtained is compiled into an environmental monitoring report, which is an important part of the environmental management process.

Annex 2: Second Wind Farm of Three Gorges Pakistan Wind Power Generation Phase II Project

The Second Wind Farm of the Three Gorges Pakistan Wind Power Generation Phase II Project (hereinafter referred to as the Second Wind Farm) is one of the actively promoted projects along the China-Pakistan Economic Corridor (CPEC). It is located in the Tata area of northeastern Karachi City, Sindh Province, southern Pakistan, with a total site area of 2.75km^2. It has 33 wind turbines with installed capacity of 1.5MW per unit and 49.5MW in total. The project is invested and constructed by the China Three Gorges International Corporation (corporate's own capital accounting for 25% and bank loans for the rest), and adopts BOO (Building-Owning-Operation) model. According to the franchise agreement and energy purchase agreement (EPA) between China and Pakistan, the project is constructed, operated and managed by Three Gorges Pakistan Second Wind Power Company. The project started in January 2016 and was put into commercial operation in June 2018. All generated power is sold to Pakistan Central Power Purchasing Agency (CPPA-G).

Aerial View of the Second Wind Farm

Pakistan relies mainly on thermal power, with hydropower as supplement. The power supply is tight, and the energy demand keeps growing at medium to high speed. The Second Wind Farm is a typical case of new energy cooperation between China and Pakistan, with an annual power generation of about 100-150 million kWh. It provides clean power to Karachi, the largest city in Pakistan, and reduces the consumption of fossil energy in the region, which is of positive significance for protecting ecological environment, reducing greenhouse gas emissions and exploring green development of Pakistan's economy and society. The project not only complies with Pakistani standards, but also refers to relevant technical specifications on EIA and monitoring as well as environmental standards in China. The Second Wind Farm has trained a large number of engineering construction management talents for the localities, employing more than 30 middle and senior engineering and technical management personnel on site. It has built or renovated about 30 kilometers of roads, which has played an important role in stimulating local employment, improving people's livelihood and strengthening infrastructure construction. Besides, the project has always paid attention to social welfare, donating a large number of teaching supplies to primary schools near the project site, which improved the hardware facilities of the schools.

I. I. Environmental management strategy in the stage of project planning

a. Consistent with the Energy Cooperation Plan of China-Pakistan Economic Corridor

At the beginning of 2014, according to the principle of "Scientific Planning, Equality and Mutual Benefit, Rational Distribution", energy experts from China and Pakistan studied and formulated the Energy Cooperation Plan of China-Pakistan Economic Corridor based on energy demand, resource endowment and social and economic development needs of China-Pakistan Economic Corridor (Note: the list of planned projects was partially adjusted in May 2017). The Second Wind Farm is one of the seven actively promoted projects included in the plan, which is in line with Pakistan's energy strategy and future green energy development direction.

b. Performance of EIA procedures

The construction of the Second Wind Farm strictly complies with relevant requirements of Pakistan's EIA. Before the project starts construction (January 2016), all EIA procedures have been completed, including establishing the environmental impact report and obtaining the approval from the Environmental Protection Bureau of Sindh Province of Pakistan (May 2013).

II. Environmental Protection Requirements of the Host Country

The Second Wind Farm is located in a semi-desertification area, with flat and barren land and only a few sparse small shrubs. During the construction period, the original vegetation will be damaged, and dust pollution and noise pollution will easily occur. During the operation period, noise pollution and electromagnetic pollution will occur, which may interfere the migratory flight of birds, and a small amount of solid waste and oily waste water will be produced during overhaul and sudden accident. In order to minimize the above impacts, the project has taken the following environmental protection measures.

a. Strengthen the monitoring and management of environmental protection during the construction period. For example, set up monitoring points in drainage outlet of sedimentation tank of concrete mixing station, the outlet of domestic sewage treatment system and the concentrated living area of workers in the construction site for regular inspection and sampling; set up monitoring points at the edge of the construction site to monitor the noise value during the day and night. By adopting environmental protection measures combining prevention, treatment and management, the adverse effects of engineering construction on the environment can be effectively controlled.

b. The noise reduction factors are fully considered in the selection of wind turbine generator set, and parameters such as blade airfoil, blade tip shape and frequency of impeller passing over tower are optimized. Under the standard state of 10m height and 10m/s wind speed, the noise at the hub is less than 100dB during the operation of generator sets. The noise pollution of wind turbines is fully considered in site selection and distribution of wind turbines. The distance between the final site and Jhimpir Village, the nearest residential area, is more than 10km, which avoids the noise disturbing. At the same time, the distance between wind turbines is relatively far, which reduces the influence of noise superposition. Two long-term noise monitoring points are set up for the wind farm.

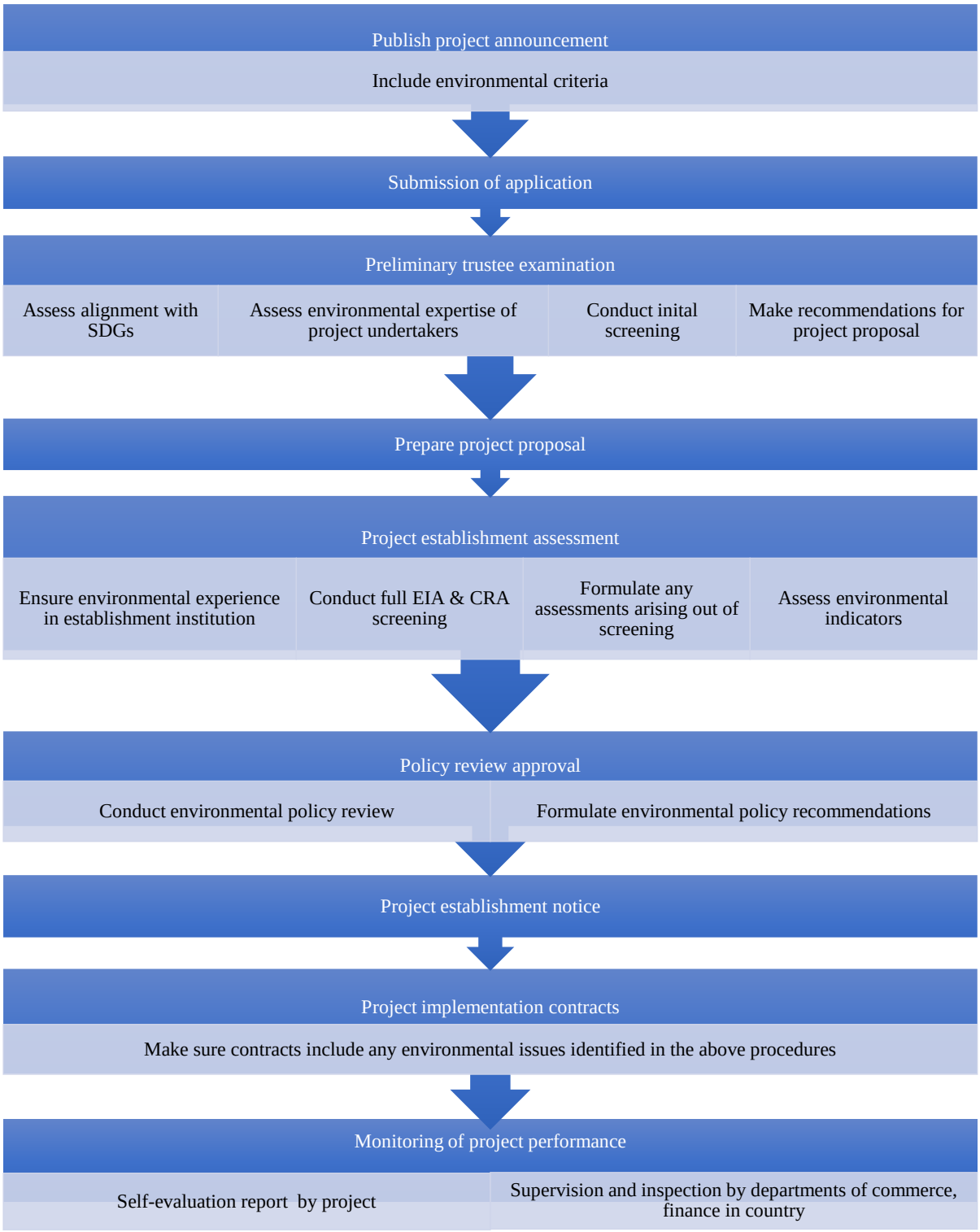
c. The electrical equipment and power collection lines of the booster station of the Second Wind Farm are far away from residential areas, which will not affect the radio and wire signals of nearby residents; During the operation period, the control power frequency magnetic field intensity meets the standard limit requirements, and the alternating current generated by the wind turbine is low in frequency and voltage, which is not enough to generate corona discharge, thus greatly reducing the risk of interference caused by the power plant to the transmission of high-frequency electromagnetic waves such as telecommunications and television.

d. In the process of site selection, the Second Wind Farm avoided bird activity places, migration routes and animal activity places as much as possible, and avoided nature reserves as far away as possible.

e. An oil pit is set under the main transformer, and an overall accident oil pool is set up. Anti-seepage and anti-corrosion coatings are applied at the bottom and around the accident oil pool, and corresponding measures such as wind, rain and sun protection are strictly taken. The oily sewage of the main transformer is discharged into the rainwater drainage pipe network after reaching the standard through oil separation treatment in the accident oil pool; Hazardous wastes generated during power plant operation are collected separately and treated regularly.

Annex 3: Framework of Whole Process Green Assessment for BRI Projects

To contribute to screening, evaluation and monitoring on the environment and environmental friendliness of BRI projects, FECO of MEE developed in 2017 the Framework of Whole Process Green Assessment for BRI Projects, covering key activities including project announcement, submission of application, trustee examination, project proposal, project establishment assessment, project implementation, and monitoring of project performance. The projects can start from the entry points shown in the following figure.



Overview of Entry Points for Green Assessment

I. Project announcement

Information presented at the project announcement stage will include general requirements to the applicant to enable qualification. Specifically for projects in 'environmentally sensitive sectors', the project applicant should provide evidence of sufficient appropriate environmental expertise or access to environmental expertise to ensure that environmental considerations are considered from the outset of project identification. The project announcement should clearly state that "project proposals will be evaluated according to the contribution they make to achieving SDG targets including environmental targets".

II. Trustee examination

a. Assessment of alignment between expected environmental impacts and environmentally relevant SDG targets

For projects in environmentally sensitive sectors, application documentation should be assessed against the environmental impacts from a checklist of environmentally relevant SDG targets.

b. Assessment of environmental, climate and social expertise

As described above it is expected that the project announcement will provide information on the requirement to include evidence of environmental expertise and experience particularly for projects in environmentally sensitive sectors.

c. Initial environmental screening

When determining the project's expected environmental impacts against the environmentally relevant SDG targets, efforts shall be made to further identify any potential negative impacts the project may have on the environment and also the influence the environment may have on the performance of the project. This process is called "initial screening of environmental impact". The initial screening will be conducted centering on whether it is possible/unlikely the project will cause negative impacts on the environment and whether it is possible/unlikely that the project will be influenced by climate change. Initial screening is helpful for trustees to make a judgement on the environmental impact of projects, which may be subject to final changes possible due to the roles that the projects play in the implementation stage. Then the results of initial screening should be monitored continuously when the initial screening is completed, so as to ensure that the results can be realized.

III. Project establishment assessment

a. Evaluation of environmental expertise by project assessment institutions

The trustees shall authorize certain third-party institutions that can demonstrate sufficient expertise on environment, climate and social impact management to undertake the project establishment assessment. The institution should provide evidence of its staff's environmental expertise and appropriate experience from other assessments to the trustees.

b. Understanding of host country environmental legislation

The project undertakers should provide evidence that during establishment and implementation the project will comply with relevant national environmental laws and regulations. The project establishment assessment institution should be able to verify that the project will comply with relevant environmental laws and regulations.

c. Environmental Impact Assessment and Climate Risk Assessment

The conclusions from the initial screening carried out at the trustee examination stage will have identified those projects that are likely to have significant negative environmental impact or be influenced by climate change. These projects should be subject to further screening to determine what additional measures may be required. These further measures could include Environmental Impact Assessment (EIA) and Climate Risk Assessment (CRA). The conclusions resulting from EIA and CRA screening should be recorded.

d. Formulate any environmental or climate risk assessments arising from screening

If the conclusions of screening indicate that an Environmental Impact Assessment or a Climate Risk Assessment is required, Terms of Reference (ToR) will need to be prepared.

e. Scientific selection of environmental performance indicators

A scientific selection of indicators can objectively reflect and measure the scale of environmental, climate and social impacts, and are helpful in examining the actual implementation performance of improvement and action plans. Therefore, in the course of conducting the assessment and management of environmental, climate, and social risks of green finance for BRI projects, environmental performance indicators that are universally identifiable and applicable at home and abroad, such as the carbon dioxide equivalent or System of Integrated Environmental and Economic Accounting (SEEA), can be selected to build a scientific, professional, and objective indicator assessment system.

IV. Guidelines of environmental policy review

a. Undertake environmental policy review

The trustees shall work with the third-party assessment institutions to conduct compliance assessment of outward investment, environmental management, corporate social responsibility laws and regulations applicable to the project.

b. Conclusions and recommendations

For “non-compliance” projects, a project optimization proposal shall be submitted, in conjunction with the existing policies and requirements; for “compliance” projects, the procedures of submission, recording, or approval shall be implemented.

V. Guidelines for project implementation contract

Trustees will make sure environmental issues identified are clearly specified in the project contracts and agreements. Specifically, identified environmental indicators should be included in the performance assessment framework and monitoring plan. In the cases where an EIA is undertaken, details of the environmental management plans should be included in the project contract. Where a CRA is undertaken, then the climate risk management plan should be included in the project contract. In addition, the contract and agreement of an investment project shall stipulate that the applicants who cannot fulfill the implantation goals are subject to proper penalties, such as loan recovery ahead of schedule or blacklisting.

VI. Monitoring during project implementation

a. Self-monitoring of environmental aspects

Monitoring of environmental aspects should be incorporated into the project monitoring system provided

there are appropriate indicators that can help identify if key environmental and climate change concerns and opportunities have been addressed. Indicators should track the efficiency and effectiveness of mainstreaming measures. This will allow prompt identification of adverse environmental and climate change impacts that may arise, and enable adaptations or revisions for the programme/project accordingly. It will also be important to ensure environmental and climate change results are regularly discussed by relevant stakeholders and by the project steering body. Opportunities may remain during the implementation phase to further enhance a project's environmental and climate change performance.

b. Independent monitoring and evaluation of environmental aspects

During the independent evaluation, the environmental and climate change performance of projects can be assessed and lessons drawn for future operations.

Annex 4: Environmental Risk Screening Tool (ERST)

The Environmental Risk Screening Tool for China's Overseas Investment (abbreviated as ERST) is a rapid assessment tool for environmental risks jointly developed by Foreign Environmental Cooperation Center of the Ministry of Ecology and Environment (the former Foreign Economic Cooperation Office) and the Paulson Institute in 2018 and officially launched in 2019. The tool is based on GIS and spatial analysis technologies. Using the global key ecological data and biodiversity data for analysis, ERST is applied in the fast screening of environmental and social risks in the project assessment stage.

ERST has designed a fast and convenient operation process, so as to make it easily accessible by the users and to enable them to obtain the analysis results for environmental and social risk screening. The creation of a project is enabled by inputting project profiles like the country and region which the project is situated, the sector to which it belongs, and basic project information. The system can automatically create a biodiversity impact and policy compliance analysis report when the construction area, one or more potentially impacted areas outside the construction area are defined. In addition, one or more self-defined analysis can be created to obtain further results of risk screening, such as the impacts on the world cultural heritages. The analysis results are either available online or downloadable as MS Word or Excel formats for offline uses and further analysis.

I. Application of ERST

ERST's functions have met the application demands of various stakeholders including governmental regulators, trustees, project implementing agencies, and third-party appraisal institutions.

For governmental regulators, ERST can provide international core and associated biodiversity information as a reference for the protection areas and the ecological system of major concern, so as to avoid or reduce the damages brought by the construction. In the meantime, a more detailed piece of evidence for regulation can be obtained as guidance for project construction. Moreover, environmental and social policies based on international conventions and protocols can be implemented more effectively.

For trustees, the standard information of biodiversity and ecological environment, fast screening of environmental and social risks provided by ERST can help greatly reduce the management cost of investment decisions. Based on the identification results and analysis of potential risks, trustees can conduct an initial assessment in combination with their internal environmental and safeguard measures, so as to confirm in the early stage of a lifecycle whether further risks analysis should be done. For projects or areas that may cause high level of risks or big harms, a further assessment can be completed to avoid investment risks and greatly reduce the labor and manager costs for initial assessment.

For project implementing agencies, based on the analysis results given by ERST, the management authorities can, on one hand, conduct real-time assessment, screening, and timely feedback for project planning, implementation, and regulation. On the other hand, the management authorities can perform accurate risk control supported by internal risk alert and emergency measures, technical plans, staffing, and financial budget. The budget of risk control can be charged to the project implementation costs. An effective risk control can enable the costs that have not yet incurred to be converted into profits in the account settlement, ensuring the economic benefits and promoting the environmental commitment and corporate social responsibilities of the implementing agencies.

For the third-party assessment institutions, before a deep environmental and social risk analysis, they can use the fast assessment of ERST to identify the key risk points. The powerful data of ERST can help avoid a possible defect and deficiency, increasing the accuracy, reducing the time and expense for the assessment.

The ERST system, built on GIS and Web technologies, contributes to more timely data updating, more convenient data analysis and overlaying. An analysis report and work log for each project can be acquired online by entering the project information and recording. Different users can get more direct analysis results and more reliable information tracking, based on which more application demands of ERST users are met.

II. Advantages of ERST

ESRT can provide accurate environmental and social risk screening at the early stage of a project, then project developers and trustees can understand the risks and make a prudent decision. This has brought a scientific evidence and convenience, which can help save the assessment costs in the early stage of a project. Supporting the construction of BRI platform, ERST has benefited the application of ecological and environmental data, offering the technical support for the environmental and social risk prevention of Chinese enterprises in outward investment and serving the BRI green development.

ERST is developed by drawing upon the advantages of Data Basin, the existing environmental risk assessment tool (https://databasin.org/). The Conservation Biology Institute (CBI) officially launched Data Basin in 2010, in a bid to promote the scientific strictness and social support for decisions of land utilization. Data Basin is a multi-purpose online tool through which individuals and institutions can directly refer and understand the existing spatial data and information, or make an analysis by creating a new map according to the demands. Data Basin has collected a wide variety of data, such as land utilization, infrastructure, climate, fire disaster history, ecological system, and protection areas. It has incorporated these data into the decision-making system, serving as a bridge linking scientific and social stakeholders, with planning quality improved, planning time shortened, uncertainty or cost reduced. As a web-based map platform, it provides the channel to access the latest data and scientific information, as well as multiple collaboration functions, analysis tools, and professional decision-making support apps.

Based on the Data Basin platform, the Inter-American Development Bank developed the Score Card for Biofuel Projects' Environmental Impacts, which will be used for assessing the potential impacts of biofuel facilities to key and general natural habits. Then the Inter-American Development Bank developed the environmental impacts and risks managing tools for Natural Habitats and Cultural Sites, which is based on the social and environmental policies. By virtue of this tool, the environmental safeguard personnel can easily analyze the impacts from an infrastructure development project. It can also send risk warnings for projects that may affect the key natural habitats, so the bank can perform a stricter review. In addition, the tool allows the banking staff to upload more environmental data for custom analysis. The downloadable reports and data help banking security staff better record and review the information of the projects to be developed. The tool better supports the environmental and social risk assessment in the decision-making process by the Inter-American Development Bank.