A Brief Analysis of Key Contents for Corporate Support of Biodiversity Development from the ESG Perspective

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BIODIVERSITY EMERGING AS THE FOCUS FOR HIGH-QUALITY BUSINESS DEVELOPMENT

During COP28, China announced the 'Kunming-Montreal Global Biodiversity Framework' implementation initiative. As progress accelerates towards the 2030 Sustainable Development Goals and the '30x30' targets, active business participation in collaborative efforts to advance biodiversity conservation and address climate change is crucial for high-quality development. This article will center on essential components of corporate biodiversity development within the ESG framework, offering valuable insights to support sustainable business development.

Macro Context: Pressing Urgency of the '30x30' Targets"

In 2022, the 15th Conference of the Parties (COP 15) led to the approval of the Kunming-Montreal Global Biodiversity Framework (GBF). Aligned with the post-2020 Global Biodiversity Framework, this ambitious initiative considers the tangible contributions of worldwide economic entities, taking into account the status of global ecosystem protection. The central focus of this framework involves addressing biodiversity loss, revitalizing ecosystems, and protecting the rights of indigenous communities to prevent and reverse environmental degradation. The set of 23 specific targets to be accomplished by 2030 include, among other objectives, the protection of land, oceans, and inland water bodies, the restoration of 30% of deteriorated ecosystems, a 50% reduction in the introduction of invasive species, and an annual decrease of $500 billion in subsidies causing harm to biodiversity. The resulting 30x30 targets require collaborative efforts from all economic entities to preserve a minimum of 30% of the world's oceans and land by 2030. The pressing timelines and challenges in execution present significant hurdles.

Table 1: Comparison between Sustainable Development Goals (SDGs) and the Convention on Biological Diversity

Goal	Links with biodiversity	Goal	Links with biodiversity
1 NO POVERTY	The development of biodiversity in the ecological environment serves as a source of resources and income, offering a solution to issues of poverty and resource scarcity.	11 SUSTAINABLE CITIES AND COMMUNITIES	Ecosystems and biodiversity play a crucial role in sustaining the everyday operations of human settlements, offering fundamental services and conditions that facilitate, support, and safeguard human activities, including production, consumption, and habitation.
2 ZERO HUNGER	Biodiversity is a crucial element and fundamental prerequisite for ensuring food security, contributing to the development of ecosystem functions.	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Adopting cleaner and more resource-efficient practices, reducing waste and pollutants, has the potential to generate economic opportunities and enhance the well-being of both consumers and producers, while contributing to the preservation of biodiversity.
3 GOOD HEALTH AND WELL-BEING	The presence of agricultural biodiversity contributes to the improvement of sustainable production by minimizing the requirement for inputs like pesticides and other chemicals.	13 CLIMATE ACTION	Forests, peatlands, wetlands, oceans, and coastal ecosystems serve as vital global carbon reservoirs. Preserving and sustainably utilizing them play a pivotal role in averting hazardous alterations to the Earth's atmospheric temperature and climate system.
5 GENDER EQUALITY	Preserving biodiversity and optimizing the delivery of related ecosystem services require maximizing the involvement of women in land and natural resource management.	14 LIFE BELOW WATER	Preserving and responsibly harnessing biodiversity in marine and coastal ecosystems are essential components of sustainable development.
6 CLEAN WATER AND SANITATION	Ecosystems play a role in sustaining the balance of water supply and controlling water quality, thereby averting incidents and disasters associated with water resources.	15 LIFE ON LAND	The conservation, restoration, and sustainable utilization of terrestrial ecosystems are crucial for sustainable development.
8 DECENT WORK AND ECONOMIC GROWTH	Preserving and responsibly harnessing biodiversity can result in increased productivity, enhanced efficiency in resource utilization, and the sustained vitality of resources over the long term.	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Enhancing the rights of communities in managing natural resources, combating illegal extraction and corruption, and ensuring transparent decision-making on social and environmental matters are essential steps toward establishing a just and inclusive society.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Biodiversity and healthy ecosystems can provide reliable and cost-effective natural infrastructure.	17 PARTNERSHIPS FOR THE GOALS	The "Strategic Plan for biodiversity" provides an opportunity to strengthen global scientific, technological, and innovative partnerships, disseminate environmentally friendly technologies, and enhance national capabilities to assess progress towards the "2030 Agenda for Sustainable Development."

Source: Compiled by the International Institute of Green Finance, Central University of Finance and Economics

To endorse and efficiently protect global ecological, species, and genetic diversity, various Chinese government departments have proactively responded, refining overarching plans continually. They've implemented a natural conservation system primarily centered on national parks, introduced an innovative ecological protection red line system, and consistently improved ecosystem quality. In summary, the evolution of biodiversity development has shifted from public awareness and education to a nationally guided macro policy, a direction that businesses are obligated to strictly adhere to.

Micro-Level Practices: Alignment of Biodiversity with the Significance of High-Quality Business Development

The imperative for enterprises to undergo high-quality development is a crucial aspect of China's ongoing economic and social modernization. This necessity is evident in the focus on deepening structural reforms on the supply side, emphasizing a strong commitment to quality control as a foundational regulatory standard.

As China's evolving development philosophy advances, businesses are mandated to adhere to the overarching principles of innovation, coordination, eco-friendly practices, openness, and inclusive growth. In line with these principles, enterprises are anticipated to systematically engage in structural adjustments, embrace innovative development, and optimize their overall operational strategies. The fundamental concept of biodiversity aligns with the central notion of enterprises concentrating on serving national strategies, hastening the enhancement of resource allocation efficiency, and strengthening core competitiveness. This alignment holds unmistakable and substantial market implications. In particular, the preservation of biodiversity is inherently tied to achieving Sustainable Development Goals (SDGs) like eliminating poverty, ensuring food security, and addressing climate change. As depicted in the table below, the essential mandates of the Convention on Biological Diversity intricately intertwine with the positive cycle of economic and social

Table 2: Key Issues of Biodiversity in the Three Major Socio-economic Systems

Three major socio-economic systems	Fifteen Transformative Actions
Food, land, and marine use systems	1. Accelerate ecosystem restoration while preventing the excessive exploitation of land and marine resources. 2. Promote the growth of resilient agriculture with stable and high yields. 3. Oversee oceans that are both thriving and productive. 4. Strengthen sustainable forest management. 5. Practice consumption patterns that foster a harmonious coexistence between humans and the environment. 6. Establish transparent and sustainable supply chains.
Infrastructure and developed environmental systems	1. Establish a compact built environment. 2. Execute planning and design for built environments with a focus on nature-based principles. 3. Develop nature-based municipal utilities. 4. Integrate nature into the infrastructure. 5. Establish transportation infrastructure with a foundation in nature-based principles.
Energy and extraction systems	1. Encourage resource - efficient and circular methods in production. 2. Undertake mineral resource extraction with a focus on environmental friendliness. 3. Build a sustainable materials supply chain. 4. Promote the transition to environmentally-friendly energy sources.

Source: Compiled by IIGF, referencing the World Economic Forum (WEF)

development. At the same time, enterprises' high-quality development, structured around internationally aligned "sustainable principles" at the top level, and marked by the creation of intrinsic value and safeguarding the interests of external stakeholders, shows significant flexibility in promoting biodiversity development. As an illustration, businesses engaged in land development and natural resource utilization must promptly comply with the stipulations outlined in "Sustainable Development Goal 15: Life on Land." Their commitment should encompass safeguarding, restoring, and fostering the sustainable utilization of terrestrial ecosystems, adopting sustainable forest management practices, preventing desertification, arresting and reversing land degradation, and mitigating the loss of biodiversity.

CRITICAL ASPECTS FOR CORPORATIONS TO PROMOTE BIODIVERSITY GROWTH FROM AN ESG PERSPECTIVE

Analysis of Key Issues Regarding Biodiversity in the ESG Framework

At present, as the International Sustainability Standards Board (ISSB) continues to release the Sustainable Disclosure Standards IFRS S1 and IFRS S2, along with the European Union Corporate Sustainability Reporting Directive (CSRD), global standards for disclosing ESG information are moving towards greater consistency. Numerous specifications and regulatory demands have already integrated "biodiversity conservation" into the ESG framework. Biodiversity serves as a fundamental factor for the progress of businesses across diverse industries. Additionally, it complements various economic and social systems, especially in the critical realms of food, land and marine utilization, infrastructure and built environment, as well as energy and extraction.

As outlined in the table 2, the central socio-economic systems, integral to biodiversity development, involve a range of transformative actions at different types and levels. These actions are intricately associated with the environment, society, and governance during the implementation phase.

Derived from the guidance of the Task Force on Climate-Related Financial Disclosures (TCFD) and the global Environmental, Social, and Governance (ESG) assessment methodology framework, this analysis will delve into three aspects: risks and opportunities associated with fostering biodiversity development, relevant risk exposures, and risk management.

Biodiversity: Risks and Opportunities

Biodiversity spans various industries, with the associated natural resources and genetic elements serving as essential raw materials for value generation and economic cycles. Examining from a risk standpoint, biodiversity can present adverse effects, encompassing both physical and transition risks. In this context, physical risks primarily refer to a reduction in ecosystem services caused by worsening ecological conditions and the depletion of natural resources. This, in turn, leads to decreased production or depreciation of asset value in the course of corporate economic activities. Transition risks involve market, reputational, and legal risks, among others. This specifically refers to companies needing to undertake technological investments and strategic transformations in their production and operations to mitigate potential negative impacts on biodiversity. Illustrative instances include soil degradation, depletion of water resources, and the reduction of species diversity. Under more extreme circumstances,

companies could encounter the revocation of operational licenses, legal proceedings initiated by landowners and stakeholders, and a persistent increase in costs related to the utilization of ecological resources. Simultaneously, biodiversity offers potential opportunities for the progressive advancement of businesses. Encouraging companies to foster collaboration among industry, academia, and research can contribute to the standardization of industry practices. Consequently, this facilitates sustainable management of natural resources and raw material utilization, ultimately improving operational efficiency.

Biodiversity-Related Risk Exposure

The most recent "Global Risks Report 2022" from the World Economic Forum highlights "Biodiversity loss and ecosystem collapse" as one of the top three risks for the next decade, closely intertwined with biodiversity loss and climate change. The commencement of COP28 has elevated climate risks to a critical crisis that all economies must address, significantly impacting biodiversity. Furthermore, factors such as agricultural activities, excessive exploitation through practices like fishing or logging, urban development, energy production, transportation, and the resulting pollution collectively represent unavoidable challenges in the realm of biodiversity. For companies, the exposure to biodiversity-related risks is spread across dimensions like pollutant treatment, resource recycling, product quality, supplier management, governance effectiveness, internal controls, etc., covering the entire industry and value chain. It represents a non-systemic risk that demands attention in the course of companies adopting ESG practices.

Biodiversity-Related Risk Management

Effectively managing ESG risks usually requires thorough, multifaceted, and systematic considerations throughout the organizational hierarchy. This encompasses institutional regulations, management mechanisms, impact assessments, and specific implementation measures with performance management at the operational level. Consequently, while companies engage in practical initiatives to support biodiversity development, they can adopt a governance mechanism akin to ESG principles. On one hand, businesses need to delineate specific operational areas that may be affected by disturbances during the implementation of their activities. The management should take the lead in constructing development plans that minimize ecological impact and protect natural ecosystems. On the other hand, the development of biodiversity relies significantly on comprehensive and reliable data references. Therefore, conducting phased assessments of biodiversity and community impacts is of great significance. Moreover, when evaluating a company's ESG practices, specific considerations related to "biodiversity" can be addressed using segmented indicators. This includes a qualitative assessment of the company's risk management mechanism design and a quantitative measurement of its overall effectiveness in biodiversity conservation. Achieving a stable growth level in a company's biodiversity performance is crucial for establishing an effective closed-loop in risk management, ensuring the sustainability of the company's development.

IIGF'S BIODIVERSITY ANALYSIS SYSTEM

Based on the essence of biodiversity and the key factors of this critical issue in the ESG system, the International Institute of Green Finance (IIGF) at the Central University of Finance and Economics independently developed a Biodiversity Analysis System and established a database. Based on the essence of biodiversity and the key factors of this critical issue in the ESG system, the International Institute of Green Finance (IIGF) at the Central University of Finance and Economics independently developed a Biodiversity Analysis System and established a database. The methodological framework centers on seven core dimensions, including strategic and systemic development, governance measures, project management, climate change adaptation, risk management, performance evaluation, and information disclosure. Adhering rigorously to the overarching context of regulations and strategies, risk identification and management, as well as information disclosure and performance assessment, it constructs an evaluation system capable of comprehensively, from diverse perspectives, and objectively reflecting a company's biodiversity practices. The evaluation system comprises more than thirty specific indicators, featuring a detailed level of data granularity. It not only reflects the corporate commitment to safeguarding terrestrial and aquatic resources but also assesses the responsiveness to national policies on ecological civilization construction. The IIGF Biodiversity Analysis System seeks to furnish market participants with a basis for in-depth comprehension of companies. Additionally, it preemptively tackles potential risks to evaluate the depreciation losses of stranded assets.

Table 3 IIGF Biodiversity Indicator System Framework

Indicator	Description of the Indicator System
Strategic and Systemic Development	The key issue reflects the specific goals, strategic planning, and system development undertaken by enterprises in executing biodiversity initiatives, constructing ecological civilization, and overseeing the governance and protection of the ecological environment. It assesses the overarching framework implemented by enterprises to promote biodiversity.
Governance Measures	This key issue critically assesses the measures and management activities that enterprises specifically undertake in the processes of biodiversity conservation, ecological civilization construction, and ecological environment governance. The assessment is grounded in the establishment of current corporate objectives, examining whether the enterprise has devised methodological strategies, set baseline criteria, and implemented consistently effective management plans.
Project Management	This key issue centers around the project development undertaken by enterprises, with a particular focus on whether biodiversity conservation and governance are integrated into project management. It also reflects on the biodiversity-related impacts generated by corporate projects and how these effects are efficiently addressed through specific measures.
Climate Change Adaptation	This key issue aims to assess whether businesses implement effective strategies to tackle climate change in their production and operational procedures. It emphasizes the commitment to biodiversity conservation with ecological civilization construction as a core element. Additionally, it measures the substantive impact of these measures on ecological categories such as land and water.
Risk Management	This key issue aims to identify notable risks and opportunities associated with biodiversity within enterprises. It involves evaluating, identifying, and monitoring biodiversity-related risks and opportunities in the context of current business models and strategies. The objective is to assess how effectively the enterprise manages risks related to biodiversity.
Performance Evaluation	This key issue integrates performance metrics, benchmarks, goals, and other disclosure indicators for analysis. It employs a combination of qualitative and quantitative analyses to measure the specific performance level of enterprises in the biodiversity field. This approach reflects the effectiveness of ecological conservation and restoration while simultaneously monitoring adverse public perceptions.
Information Disclosure	This key issue focuses on the level of information disclosure by enterprises in the field of biodiversity. It specifically examines the methods, content, quality, and degree of information disclosure to illustrate the transparency of corporate information regarding biodiversity issues.

Source: Compiled by IIGF, CUFE

KEY RECOMMENDATIONS FOR ENTERPRISES TO PROMOTE BIODIVERSITY PRACTICES

(1) Clearly define the specific scope of biodiversity within key ESG issues

The overarching structure of ESG development, both domestically and internationally, can be primarily categorized into two dimensions. On the one hand, there are standard frameworks established by leading organizations such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the International Sustainability Standards Board (ISSB). On the other hand, there is the ESG rating system led by index companies such as MSCI, S&P, Morningstar Sustainalytics, etc. Although these frameworks and systems often incorporate descriptions and analyses concerning the critical topic of biodiversity, they generally carry substantial significance in providing guidelines, yet there is room for improvement in terms of practical guidance attributes. For enterprises in different industries, their business characteristics and scales vary. The impact of corporate production and operational activities on the ecosystem differs, and this discrepancy extends across various dimensions of the value chain.

Despite the introduction of standards such as the Taskforce on Nature-related Financial Disclosures (TNFD) to serve as partial metrics for delineating biodiversity-related risks among all market players, ongoing enhancements are essential. These improvements aim to enable businesses to more accurately align with the specific benchmark criteria while systematically engaging in the identification, assessment, and management of such risks.

(2) Promoting collaborative efforts to enhance the quality of biodiversity data

The cornerstone for the successful integration of ESG practices in businesses lies in having traceable, genuine, reliable, and thorough data. Such data plays a crucial role in helping companies evaluate and monitor specific performance indicators across diverse aspects. Biodiversity spans a broad spectrum of domains, reaching beyond species conservation to include activities such as soil restoration and water resource management. Its influence is widespread, necessitating a considerable volume of quantitative data to underpin the assessment of a company's level of contribution. Based on the literature, an examination of almost 2,000 annual corporate social responsibility reports in the Chinese market in recent years reveals

that a considerable number of these reports include details about biodiversity. Nevertheless, there has been a persistent deficiency in the substantial content and credibility of biodiversity information disclosure. As a result, it is suggested that companies, during the course of thorough information disclosure, focus on structuring data related to biodiversity themes and validate and openly share quantitative data. This approach aims to improve the substantial and credible aspects of disclosing information about biodiversity. Simultaneously, through the collaborative efforts of industry associations, third-party assessment organizations, and expert think tanks, a multi-faceted approach is being established to create methodologies and indicator systems related to corporate biodiversity. This initiative aims to provide guidance for companies engaged in medium to long-term biodiversity support efforts.

(3) Enhance the capacity building for enterprises to support biodiversity development.

Biodiversity development is an enduring and sustainable undertaking, necessitating companies to implement governance mechanisms, risk assessment procedures, and performance evaluation criteria throughout their organizational structure. This aligns closely with the superior development of enterprise ESG (Environmental, Social, and Governance), underscoring the significance of incorporating biodiversity considerations into the broader ESG framework. The improvement of enterprise ESG capabilities can be addressed by focusing on three primary elements: increasing awareness, enhancing professional expertise, and setting up necessary infrastructure. The execution of these strategies is delineated by short, medium, and long-term timeframes. Hence, businesses have the flexibility to methodically and judiciously organize their efforts based on various stages and situations. Preliminary measures, including the development of professionals and collaborative interdisciplinary research, are crucial for companies to dynamically set the primary focuses of biodiversity. For example, companies in sectors like construction, mining, metallurgy, and petrochemicals must monitor both terrestrial and aquatic data at project locations. Moreover, they should proactively provide environmental protection and resource restoration tools to uphold ecosystem stability, mitigating potential risks tailored to the distinctive features of each area. Hence, businesses have the flexibility to methodically and judiciously organize their efforts based on various stages and situations.

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