The Dilemma and Optimization of Environmental Information Disclosure --Taking the listed company as an example

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Abstract
Responding to climate change is the common responsibility of all mankind, and the 'dual-carbon' goal is China's solemn commitment to the world to respond to global climate change and participate in global climate governance. Corporate environmental responsibility is an important issue in China's current economic construction. This paper mainly discusses the construction of the legal system of environmental information disclosure of listed companies in China under the background of 'double carbon', and proposes to make suggestions for expanding the scope of the disclosure subject, increasing incentives, etc. Secondly, it is suggested to strengthen the linkage of departments, such as ecological and environmental departments, securities regulators, etc., to form effective supervision and to safeguard the public's right to know, to form a more solid supervisory environment. More solid supervision environment.

Keywords
environmental information disclosure of listed companies; legal regulation; right to know; ESG

1.Introduction

In September 2020, at the 75th session of the United Nations General Assembly, President Xi Jinping proposed for the first time that China should strive to achieve a carbon peak by 2030 and carbon neutrality by 2060 as a 'dual-carbon' goal. The proposal of the 'dual-carbon' goal signifies that the construction of China's ecological civilization during the '14th Five-Year Plan' period will enter a critical period in which carbon reduction will be the key strategic direction and synergy between pollution reduction and carbon reduction will be promoted to facilitate the overall green transformation of economic and social development and to realize the improvement of ecological and environmental quality from quantitative change to qualitative change. The 'dual-carbon' goal is becoming a huge driving force for social transformation and is a broad and profound systemic change in the economy and society. As the core of the modern economy, the role and status of the market economy in realizing the 'dual-carbon' goal is self-evident. In particular, it has become a consensus among all sectors of society to build a perfect environmental information disclosure system and strengthen the green supervision of enterprises, to help the realization of the 'dual-carbon' goal.

2.Overview of environmental information disclosure system

2.1Concept and theoretical basis of environmental information disclosure system

Environmental information disclosure refers to the fact that companies and enterprises should regularly dis-

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close environmental information related to their business activities to the unspecified public through certain forms. There are three theoretical bases for environmental information disclosure, namely, the right to environmental information, the theory of corporate social responsibility, and the theory of public-private partnership.

The right to acquire environmental information is the materialization of the right to information in the field of environmental protection. The concept of the right to environmental information refers to the public's right to access and know environmental information by the law, in which the sources of environmental information are not limited to government departments, but also include enterprises and other social organizations.The real demand for the right to environmental information is due to environmental issues related to science and technology, risk and other specialized knowledge, citizens who can not get timely access to relevant information on environmental quality, will produce information asymmetry between citizens and the government, enterprises, thus invariably hindering the public participation in environmental public affairs. This is because public understanding and mastery of environmental information is often a prerequisite for public participation.

Corporate Social Responsibility (CSR) has been an important force in recent years in terms of social demands on enterprises. Enterprises are creators of responsibility, users and transformers of resources, as well as producers and emitters of pollutants. While pursuing economic interests, enterprises must assume social responsibilities such as protecting the environment and saving resources. The so-called CSR refers to the fact that while enterprises create profits and surpluses, they should also take into account the impacts of their economic activities from inputs to outputs on the society and the natural environment at each stage, especially in the structure of economic globalization, enterprises have become the concentrators of many important resources, and therefore they should shoulder their social responsibilities to their employees, the society, and the environment. CSR has been a strict requirement for enterprises in recent years due to the increasingly severe environmental pollution and resource consumption in various countries and has gradually been integrated into the corporate culture and the process of corporate operations. Since the United Nations proposed the concept of ESG, people's attention to non-financial performance information has increasingly focused on the performance of enterprises in the environment, social and corporate governance.

Public-private partnership (PPP) is a process whereby the public and private sectors, based on equality and reciprocity, negotiate and communicate with each other for the common goal of creating value, and sharing benefits and risks, to provide the best public services. As far as environmental information disclosure is concerned, the private sector has begun to reflect on its corporate social responsibility and its responsibility to disclose environmental information as a reflection of the state of environmental quality; the public sector has begun to recognize its limited ability to control sources of environmental information and seeks complementary support from the private sector, which then requires enterprises to make mandatory disclosure of environmental information. Public-private collaboration emphasizes the increased interdependence and cooperation between the public and private sectors, but in this model, the public sector remains dominant, with the private sector mainly playing a complementary role in the form of administrative assistance.

The further development of theories such as the right to environmental information, social responsibility, and public-private partnership governance has provided a theoretical basis for the study of China's environ-

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mental information disclosure system.

2.2The significance of constructing and optimizing the environmental information disclosure system of listed companies under the dual-carbon goal

In September 2020, at the seventy-fifth session of the United Nations General Assembly, President Xi Jinping proposed for the first time that China would strive to achieve the 'dual-carbon' goal of achieving a carbon peak by 2030 and carbon neutrality by 2060. The proposal of the 'dual-carbon' goal signifies that the construction of China's ecological civilization during the '14th Five-Year Plan' period will enter a critical period in which carbon reduction will be the key strategic direction, the promotion of a comprehensive green transformation of economic and social development, and the achievement of quantitative to qualitative improvement in ecological and environmental quality. The 'dual-carbon' goal is becoming a huge impetus for social transformation and a broad and profound change in the economic market. As the wind vane of the modern economy, the role and status of listed companies in realizing the 'dual-carbon' goal is self-evident. It is all the more important for listed companies to enhance the transparency of their performance in terms of the relevant indicators and to strengthen their management for continuous improvement. Among other things, it is urgent to build a comprehensive environmental information disclosure system and improve the environmental information disclosure system in a targeted manner to help realize the 'dual-carbon' goal.

For listed companies, environmental risk has become an important dimension that must be considered in enterprise risk management. According to the current progress of related research at home and abroad, environmental risk usually affects business operations from three channels: first, the improvement of environmental protection standards and the tightening of policies will have an impact on the cash flow and assets and liabilities of enterprises; second, the joint and several liabilities that may be brought about by corporate pollutant emissions to lenders, and the willingness of financial institutions and investors to provide funds and the cost of financing to enterprises and projects in environmentally sensitive industries will be different; and third, the environmental events and environmental management capacity may pose a reputational risk to enterprises and thus to financial institutions.

3.Assessment of the effectiveness of China's environmental information disclosure system and application dilemmas

3.1Low legislative level of the existing system

By searching 'environmental information disclosure' in the PKULAW database can get the current effective normative documents, the highest level is the Ministry of Ecology and Environment in December 2021 issued by the 'enterprise environmental information disclosure management measures according to law', which belongs to the departmental regulations, China's enterprise environmental information disclosure system is in the initial stage, there is the problem of low level of regulations and thin system. From this, it can be seen that the existing regulations are insufficient to regulate and supervise the disclosure of environmental information by enterprises.

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Office	Relevant documents	Effectiveness level
Standing Committee of the National People's Congress (NPC)	Law of the People's Republic of China on Environmental Protection	Law
State Council (PRC)	Report on accelerating the establishment of a sound green, low-carbon, and recycling development system Economic System	State Council Normative Documents
Ministry of Ecology and the Environment (MEP)	Administrative Measures for the Legal Disclosure of Environmental Information of Enterprises	Departmental Regulation
	Program for Reform of the System of Legal Disclosure of Environmental Information	Sectoral normative documents
	Guidelines on the Format for Legal Disclosure of Environmental Information by Enterprises	Sectoral normative documents
General Office of the Central Committee of the Communist Party of China, State Council Office of the People's Republic of China	On Promoting High-Quality Development of the Social Credit System Opinions on Promoting the Formation of New Development Patterns	The Party's Internal Regulations System
Ministry of Industry and Information Technology, National Development and Reform Commission and Ministry of Ecology and Environment	The High-quality Development of the Iron and Steel Industry Guidance	Sectoral normative documents
Shanghai Stock Exchange (SSE)	Shanghai Stock Exchange during the 14th Five-Year Plan period Peak Carbon Neutral Action Program	Industry Regulation
	Guidelines on Disclosure of Environmental Information by Listed Companies	Industry Regulation
The People's Bank of China, the General Administration of Market Supervision, and the Banking and Insurance Regulatory Commission, China Securities Regulatory Commission (CSRC)	Financial Standardization '14th Five-Year' Development Plan	Sectoral working papers

3.2Narrow scope of environmental information disclosure subjects

About the scope of subjects for mandatory disclosure of environmental information of listed companies, it can be examined from two dimensions, namely, the existing legal provisions and practice. On the legal level, according to the Administrative Measures for the Legal Disclosure of Corporate Environmental Information (2021), Article 7(3) stipulates that 'listed companies and subsidiaries at all levels within the scope of consolidated statements (hereinafter referred to as listed companies) that comply with the provisions of Article 8 of these Measures. ' Article 8 further stipulates, ' Listed companies and debt issuers with one of the following circumstances in the previous year shall disclose environmental information by the provisions of these Measures: being held criminally liable for ecological and environmental violations; being fined more than 100,000 yuan according to the law for ecological and environmental violations; being punished consecutively on a day-to-day basis according to the law for ecological and environmental violations; and being restricted in production according to the law for ecological and environmental violations. violations are imposed production restriction or suspension of production and remediation according to law; ecological environment-related licenses are revoked according to law for ecological environment violations; and its legal representative, principal person in charge, directly responsible person in charge, or other directly responsible person is sentenced to administrative detention according to law for ecological environment violations." The municipal-level ecological and environmental authorities in the districts to organize the de-

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velopment of environmental information within the administrative region by the law to disclose the list of enterprises published by the end of March each year.

For listed companies other than those severely penalized for ecological and environmental violations, there is no mandatory disclosure of environmental information. It can be seen that the existing law will be the subject of mandatory disclosure of environmental information of listed companies limited to listed companies that do not belong to the list of enterprises that disclose environmental information by the law can not disclose environmental information. For ecological and environmental violations were severely punished listed companies undoubtedly need to be punished after continuous supervision, to prevent them from committing ecological and environmental violations again, but the number is limited, if the listed companies do not belong to the list of enterprises that disclose environmental information according to law exclude the application of mandatory disclosure of environmental information, then most of the listed companies that have environmental problems, the public is still unable to learn the Relevant environmental information, the citizens' right to environmental information still can not be guaranteed.

3.3Insufficient incentives for environmental information disclosure

At present, China has established an enterprise information disclosure system centered on the Company Law and the Securities Law. However, under the situation of increasingly serious environmental pollution, environmental information has not been fully reflected in the information disclosure system. Existing provisions on environmental information disclosure are mostly reflected in environmental protection laws, including Article 62 of the Environmental Protection Law, which imposes fines on key sewage disposal units that do not disclose environmental information by the provisions of the law and make public announcements, but the amount of punishment is not clear. Articles 27 to 29 of the Administrative Measures for the Legal Disclosure of Environmental Information of Enterprises[1] impose a fine of 10,000 to 100,000 yuan for violation of the legal provisions on the disclosure method, time limit for disclosure, and inaccurate disclosure. It can be seen that the responsibility constraints of corporate environmental information disclosure are mostly limited to a kind of ex post facto punishment for listed companies' violation of environmental information disclosure, and the strength of the punishment is extremely limited[2]. The fine of not more than 100,000 yuan is hardly the same economic volume compared with the financial risk caused by the disclosure of environmental information by listed companies. As a result, listed companies are 'happy' to choose to be penalized, and do not want to disclose environmental information to affect their business performance. As the existing system is unable to effectively regulate the disclosure of environmental information by listed companies, the disclosure of environmental information by listed companies, as the main force of enterprises to promote the realization of the goal of 'double carbon', is seriously inadequate.

4.Global practices and trends in environmental information disclosure systems

4.1The United Nations provides guidance on principles for ESG disclosure

Since the concept of ESG was introduced by the United Nations, attention to non-financial performance information has increasingly focused on corporate performance in terms of environment, social, and corporate governance. From 2004, when the United Nations Global Compact first put forward the concept of

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ESG in its report 'He Who Cares Wins', pointing out that regulators should promote corporate disclosure of environmental and social information, to 2006, when the Principles for Responsible Investment (PRI), an organization established under the auspices of the United Nations, issued six principles for responsible investment to promote investors to include ESG factors in their investment decisions, ESG has gradually been widely practiced in business activities. ESG is gradually being widely practiced in business activities.

In 2009, the Sustainable Stock Exchanges Initiative (UNSSE) was launched by the United Nations Conference on Trade and Development (UNCTAD) and the Principles for Responsible Investment (PRI), to help signatory exchanges prepare and publish guidelines for ESG reporting, and to improve disclosure of information by listed companies. More than 98 legal entities have joined the initiative. In recent years, the United Nations first proposed 17 Sustainable Development Goals (SDGs) in 2015, and then the UN Global Compact and GRI collaborated to build the SDGs into a new framework for corporate ESG disclosure.

4.2Tailoring the content of information disclosure in each country

Since 2004, an increasing number of countries have adopted relevant UN initiatives and investment principles in their policy and regulatory development and have responded to the UN SDGs agenda in action. As an example, the guidance document issued by the Dubai Financial Market in the UAE constructs a mapping of a set of correlations between specific entries in ESG credentials and the SDGs. The ESG Reporting Guidelines 2.0 released by the NASDAQ Stock Exchange in 2019 also explicitly responds to the SDGs' goal elements of gender equality, responsible consumption and production, climate change, and partnerships for goal achievement. It can be seen that SDGs provide a disclosure framework and foundation for ESG information disclosure, indirectly promoting the development of substantive and standardized disclosure content in various countries.

Following the promulgation of the Reporting Directive by the EU in 2014, all EU member states have now completed the construction of relevant regulations at the national level. It is worth noting that the Reporting Directive gives countries the flexibility to make adjustments to their legislation, so it is possible to take this opportunity to see how the actual national conditions of each country influence the final presentation of the law. As a country with considerable determination and leadership in combating climate change, France issued Decree n°2017-1180 in 2017, which requires companies to disclose 'the impact of their activities and their services and products on climate change' in addition to the basic 'environmental matters'.

Increasingly mandatory and substantive requirements for national disclosure systems

In recent years, more and more policymakers have begun to require enterprises (especially listed companies) to disclose ESG information by mandatory means, and the regulations on ESG disclosure have gradually moved from encouragement and guidance to semi-mandatory and mandatory. In this process, the "comply or explain" principle has been widely used. This principle provides a certain degree of flexibility for companies at different stages of development, which makes it easier for the new system to be accepted in the promotion.

Among the EU countries, Germany and Italy introduced policies to encourage enterprises to disclose environmental and social information in 2011 and 2012 respectively. After the EU enacted the Non-Financial

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Reporting Directive in 2014, the two countries introduced mandatory ESG disclosure requirements for large companies in 2016 and 2017 and required companies that do not comply to provide explanations.

Materiality is one of the key principles followed by the accounting and auditing profession, and it is now an important reference for measuring the quality of ESG disclosures. In recent years, the concept of "dual materiality" has become one of the core concepts in the development of ESG disclosure policies in many European countries, promoted by the European Commission. Following the principle of "dual materiality" in ESG reporting means that a company should not only examine the impact of a certain issue on its own development, operations and market position but also consider the impact of these issues on the external economy, society, and environment.

5.Construction and Improvement of the Legal System for Disclosure of Environmental Information by Listed Companies in China

On the one hand, the growing robustness of environmental and social legislation and enforcement systems has brought more constraints to enterprises. Protecting the environment and establishing a corporate governance system adapted to sustainable development have increasingly become factors that must be taken into account in business operations. On the other hand, in recent years, the outbreak of problems in the areas of climate and environmental change and production safety has not only posed great risks to the sustainable operation of companies but has also made the whole society sympathetic to the situation. Therefore, accelerating the construction of China's ESG information disclosure system and promoting the improvement of ESG rating system standards should become the focus of China's ecological civilization and green financial development in the next stage.

5.1Examining legal supply from a cross-disciplinary perspective

Emphasize benefits in a market-oriented manner. Adhering to the 'market orientation' of the corporate environmental information disclosure system is the basic requirement to ensure the realization of the 'dual-carbon' goal. The Guiding Opinions propose to adhere to market orientation, give full play to the decisive role of the market in corporate environmental information disclosure, encourage the participation of both public and private entities, leverage social capital through government-enterprise cooperation, and improve green supervision. The construction and improvement of the corporate environmental information disclosure system under the goal of 'dual-carbon' needs to consider both overall and specific aspects. It is necessary to assess the relationship between "carbon peak, carbon neutral" and climate change from a macroeconomic perspective, design a reasonable global emission reduction plan under the dual background of economic globalization and the 'dual carbon' goal, measure the responsibility for emission reduction, and realize the fair sharing of costs. Under the premise of controllable financial and legal risks, we should continue to innovate the corporate environmental information disclosure system.

Emphasize the role of environmental law regulation. The development of corporate environmental information disclosure system should certainly play a decisive role in market allocation, mainly through the market to judge and choose, but the market also has its inherent defects that are difficult to overcome, in adhering to the market mechanism as the main body of regulation at the same time, through the economic legislation

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and even the use of administrative means to regulate is still necessary. Clarifying the core connotation and legal attributes of the elements of "environmental information", will provide a theoretical tool for the connection between the enterprise environmental information disclosure and traditional jurisprudence, and will also help to overcome the problems in the legislative practice.

5.2Improvement of relevant legislation by 'both hard and soft' measures

From the perspective of international experience, at present, all countries have introduced a large number of laws and regulations to protect the environment, and with the combined efforts of the government and civil society organizations, the United States, Japan, and European countries have achieved the mandatory disclosure of environmental accounting information to the outside world by enterprises, especially listed companies, and each country has formulated the corresponding guidelines and methods to guide enterprises to standardize, standardize and disclose the information in a high-quality manner.

Under China's current institutional background and specific political and business relations, institutions such as the People's Bank of China and the China Securities Regulatory Commission (CSRC) have strong administrative constraints on listed companies, and the strengthening of the environmental protection assessment of the relevant departments can play a role in the environmental protection behaviors of listed companies such as the disclosure of environmental information through such administrative constraints. At the same time, in this process, to prevent the strategic disclosure behavior of listed companies and improve the quality of environmental information disclosure, the next relevant departments such as the Ministry of Ecology and Environment, the Ministry of Industry and Information Technology, and the China Securities Regulatory Commission, etc., should introduce more detailed legal provisions and evaluation and scoring systems for the environmental information disclosure behavior of listed companies, which is not only conducive to the administrative supervision and enforcement of the relevant departments, but also conducive to the social This is not only conducive to the administrative supervision and enforcement of the relevant departments, but also to the supervision of society and the judicial intervention of the judicial system when necessary. In addition, targeted industry regulations should be introduced based on the characteristics of each industry, and the environmental information disclosure system relies on the establishment of an indicator system for each industry. The core disclosure indicators should be specified in detail, and a comprehensive and systematic indicator catalog should be designed to guide enterprises to disclose environmental information in a more detailed and comprehensive manner.

5.3Improving incentive systems for mandatory disclosure of environmental information

Listed companies still have 'problems of irregular operation and governance and poor quality of development', and should be explicitly required to standardize corporate governance and internal control and improve the quality of information disclosure. This is a necessary measure for the future development of enterprises. Penalizing binding documents can help increase the quality of mandatory environmental information disclosure by listed companies, while incentives can help increase the quality of voluntary environmental information disclosure by listed companies.

Given the information superiority of listed companies in environmental information, it will be difficult to solve the problem of autonomous disclosure incentives of enterprises by relying on government regulation

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alone, and opportunistic behaviors such as selective disclosure, false disclosure, and "greenwashing" will continue to exist. Therefore, it is recommended to improve the legal system of incentives for mandatory disclosure of environmental information and to elevate economic support policies and measures into regulations at an appropriate time, to put them into an institutionalized track. Secondly, commercial banks and other financial institutions should play the role of financial leverage to guide banks to change their asset allocation in advance, reduce loans to enterprises that do not disclose environmental information by the law, and promote investee enterprises and loan enterprises to improve environmental management and disclosure. Once again, material compensation should be given through financial subsidies and green funds.

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