

Research on the Legal Regulation of Greenwashing in ESG Information Disclosure by Listed Companies

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Abstract: As global attention to Environmental, Social and Corporate Governance (ESG) continues to rise, the transparency and authenticity of listed companies' ESG disclosure is becoming the focus of market attention. However, the phenomenon of "greenwashing" has become increasingly serious. The term "greenwashing" refers to companies misleading the market about their environmental and social responsibilities by exaggerating or falsely publicizing their sustainable development initiatives. If a listed company is exposed as "greenwashing", it not only damages its own reputation, but may also call into question the sustainability commitments of all companies. In China, while ESG disclosure is developing rapidly, the reputational risk of "greenwashing" behavior needs to be addressed urgently. In order to regulate the "greenwash" behavior of ESG disclosure of Chinese listed companies, the author puts forward the following suggestions by synthesizing the reasons for the "greenwash" phenomenon and the experiences of the EU, the United States, and Hong Kong: Firstly, drawing on the experience of other jurisdictions in regulating "greenwash" and China's national conditions, it is essential to strengthen the construction of the legal system and build a unified ESG information disclosure standard; secondly, a diversified social supervision system should be developed, including the active development of the third-party independent audit institutions and the play of the supervision power of the investor and the public; and lastly, the effectiveness and traceability of ESG information management should be enhanced by relying on the digital technology.

Keywords: Greenwashing; ESG Disclosure; Listed Companies; Sustainable Development.

1. Overview of "Greenwashing" Behavior in ESG Disclosure

1.1. The Concept of "Greenwashing"

The term "greenwashing" was first coined by environmentalist Jay Westerveld in 1986 to describe the use of false or misleading tactics by corporations in their environmental campaigns in order to cover up their negative impact on the environment or to exaggerate the effectiveness of their environmental efforts. [1] According to the Oxford English Dictionary, "greenwashing" refers to the dissemination of false information by an organization to portray itself as an "environmentalist" to the public, but does not follow through on this. [2] Wikipedia also defines it as an advertising or public opinion manipulation tactic in which a company uses exaggerated green public relations or marketing tactics to mislead consumers into believing that its products, policies, or operations are environmentally friendly. In recent years, with climate change, the green economy, and the concept of sustainable development gaining popularity, corporate ESG (environmental, social, and governance) performance has come under scrutiny. In this context, the phenomenon of "greenwashing" has gradually permeated ESG disclosure, with some companies utilizing information disparity or selective disclosure strategies to make their sustainability performance appear more positive than it actually is.

Overall, "greenwashing" refers to the use of exaggerated, misleading or false environmental publicity by enterprises to enhance their public image or gain economic benefits. Such behaviors may not only mislead investors and consumers, but also affect policymakers' assessment of corporate sustainability performance, thereby negatively impacting the

development of a green economy.

1.2. Causes of "Greenwashing" of ESG Disclosures

1.2.1. Conflict between Policy Promotion and Non-Harmonization of Standards

Driven by China's "Peak Carbon and Carbon Neutral" policy, some companies have rushed to issue "Zero Carbon Commitments" in order to comply with the policy direction. In order to respond to ESG requirements from external regulators and stakeholders, companies often adopt a "symbolic compliance" strategy, selectively disclosing favorable indicators to create an image of compliance, rather than genuinely improving sustainable performance. The underlying reason for this phenomenon is the lack of uniformity in ESG disclosure standards. Although ESG requirements are mentioned in documents such as the Code of Governance for Listed Companies, China has not yet established a unified ESG disclosure framework at the national level similar to the EU's Sustainable Financial Disclosure Regulation (SFDR) or the U.S. Securities and Exchange Commission's (SEC's) Climate Disclosure Rule, and companies can selectively implement local or industry standards. However, the ESG disclosure rules issued by different entities are quite different, leading to the fact that listed companies often tend to choose the local or industry standards that are most favorable to them, and even "greenwashing" phenomena such as fraud and concealment occur.

A search for "ESG reports" on the official website of the Shanghai Stock Exchange (SSE) revealed that most listed companies reference three or more ESG reporting frameworks, mainly referring to Global Reporting Initiative's *Sustainability Reporting Standard, Reference Indicator*

System for ESG Special Reports of Central State-Owned Enterprise-Controlled Listed Companies, Shanghai Stock Exchange's regulatory Guidelines for Listed Companies No. 14 - Sustainability Reporting.

In addition to the fact that China's ESG disclosure framework has not yet been harmonized, the confusion of China's ESG rating system is also an important reason why the "greenwashing" phenomenon is so common. Currently, China's ESG rating agencies have adopted different evaluation index systems rather than a unified national standard. Different agencies adopt different data sources, evaluation dimensions and calculation weights when evaluating ESG performance, resulting in different ESG ratings for the same company by different agencies. In contrast, ESG rating systems in Europe and the United States are more mature. For example, the ESG ratings of international agencies such as MSCI and S&P Global are guided by financial regulators or international organizations, and the rating standards are more transparent and credible. On the other hand, China lacks an officially recognized unified regulatory system, resulting in the authority of ESG ratings being questioned, and enterprises are more likely to take advantage of the loopholes in the rating system to enhance their ESG image by means of "greenwashing"

1.2.2. Economic Benefits of "Greenwashing"

With the advancement of the global sustainable development agenda, the concept of ESG has been widely recognized globally, and the attention of investors, consumers and government regulators to corporate sustainable development has increased significantly. Companies with good ESG performance tend to gain higher market valuation and investor favor. However, in practice, in order to avoid the high cost of ESG investment, some enterprises do not really carry out sustainable technological upgrading, but rather exaggerate ESG disclosure by means of "greenwashing".

At the consumer level, consumers' willingness to pay for green products is rising, and companies with a good brand image tend to command a higher market premium. By "greenwashing", companies sell their products at a higher price. This green marketing strategy can yield significant economic returns in the short term. However, in the long run, once consumers discover that a company's ESG information has been falsified, brand trust will plummet, and the company may even face legal action.

In addition, the improvement of the green financial system will also be a motivation for companies to choose to greenwash. In recent years, the government and financial institutions have launched a series of financial instruments to support sustainable development, such as green credit and green bonds. These instruments provide financing preferences and policy incentives to enterprises that meet environmental standards. However, because the ESG regulatory mechanism is not yet perfect, some enterprises can obtain green financial resources through selective disclosure, fuzzy presentation or even data falsification. This low-risk, high-reward model has made the phenomenon of "greenwashing" persist despite prohibition.

1.2.3. Insufficient Mandatory and Law Enforcement

According to *China ESG Development White Paper 2024*, as of the end of August 2022, only about 30% of listed companies have published ESG reports, and most of them are state-owned enterprises or large private enterprises. Although the SEC encourages ESG disclosure, it does not mandate companies to disclose key data such as supply chain

emissions and biodiversity impacts. This has led to many enterprises' ESG reports being vague, and in the case of disclosed ESG reports, there are issues such as failure to disclose carbon emission intensity or density, only committing to carbon emission reduction targets, failing to state specific implementation paths, or lack of intuitive data information.

There is currently no legal definition, targeted legislation or other relevant legislation on greenwashing in China, but policy guidance on greenwashing exists. In the existing legal framework, "greenwashing" is mainly regulated through *the Law of the People's Republic of China on Anti-Unfair Competition*, *the Law of the People's Republic of China on Advertising*, *the Law of the People's Republic of China on Protection of Consumers' Rights and Interests*, *the Law of the People's Republic of China on Product Quality*, and *the Criminal Law of the People's Republic of China*.

In May 2022, the State-owned Assets Supervision and Administration Commission (SASAC) issued the *Work Plan for Improving the Quality of Central State-Owned Enterprise-Controlled Listed Companies*, which requires central enterprises to improve the ESG working mechanism, enhance ESG performance, and promote the disclosure of ESG reports by more listed companies held by central enterprises, striving for the disclosure of "full coverage" of relevant reports by 2023. On April 12, 2024, the Shanghai Stock Exchange, the Shenzhen Stock Exchange and the Beijing Stock Exchange simultaneously issued the *Guidelines for Listed Company Self-Regulation—Sustainability Reports* (No. 14, No. 17 and No. 11, respectively), which requires that the sample companies of the prescribed indexes and companies listed both domestically and internationally should disclose their sustainability reports. listed companies should disclose sustainability reports. It can be seen that there is a lack of high-level legal documents on ESG disclosure for listed companies in China, while local or industry standards are mostly voluntary requirements, and there are relatively few mandatory requirements.

In addition, the low cost of non-compliance and weak administrative penalties have also condoned "greenwashing". According to the *Securities Law of the People's Republic of China*, the maximum fine for ESG disclosure violations is only 600,000 RMB, which is far lower than the potential benefits of "greenwashing". At the same time, the number of lawsuits filed for ESG misrepresentation is very small, according to the Financial Law Research Center of Peking University, there are only three such cases in 2022, and the success rate is less than 10%.

1.2.4. Lack of Audit and Regulatory Mechanisms for ESG Disclosure

At present, China is in the initial stage of independent third-party auditing of ESG, and there is still a big gap compared with Europe and the United States. China lacks mandatory requirements for independent auditing of ESG disclosure, and enterprises mainly rely on the voluntary principle to conduct audits, with only some large state-owned enterprises and listed companies with a high degree of internationalization taking the initiative to hire independent auditors. In addition, due to the lack of uniform auditing standards, there are large differences in the assessment frameworks used by different ESG rating agencies, which makes it difficult to compare the data in ESG reports and for investors and regulators to accurately assess the sustainability performance of companies. In addition, China's existing ESG audits mainly focus on

environmental (E) areas, with less disclosure of social (S) and governance (G) data, leading to questions about the completeness of ESG reports and providing opportunities for companies to "go green".

In recent years, Europe and the United States have established more mature independent ESG audit systems. In the EU, for example, the *Corporate Sustainability Reporting Directive* (CSRD), which will come into effect from 2024, explicitly requires large enterprises to conduct third-party audits of ESG data. The UK, on the other hand, requires companies of a certain size to be audited in accordance with the *Framework for Climate-Related Financial Disclosure* (TCFD). Compared to China, ESG audits in European and American markets are also more standardized, adopting international standards such as Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB).

Overall, China's ESG auditing and regulatory system is still in the early stages of development and has not yet been incorporated into the scope of securities regulation, which further reduces the cost and risk of corporate greenwashing and creates a vicious cycle of "low-cost violations and high-yield returns".

2. "Greenwashing" in ESG Disclosure of Listed Companies

2.1. Key Practices of "Greenwashing" in ESG Disclosure by Listed Companies

In 2007, the U.S. environmental marketing firm TerraChoice released a report on the investigation of false environmental promotional practices by companies in the North American consumer market, summarizing the "Six Deadly Sins of Greenwashing," which include Sin of the Hidden Trade-Off, Sin of No Proof, Sin of Vagueness, Sin of Irrelevance, Sin of Lesser of Two Evils, Sin of Lesser of Two Evils, and Sin of Lesser of Two Evils. Proof, Sin of Vagueness, Sin of Irrelevance, Sin of Lesser of Two Evils, and Sin of Fibbing. In 2009, the Sin of Worshiping False Labels was added to this list and updated to the "Seven Deadly Sins of Greenwashing". In the same year, *Southern Weekly* firstly introduced the concept of "greenwashing" into China. It categorized the manifestations of greenwashing into the following ten types: blatant deception, intentional concealment, double standards, empty checks, early rigor, and later negligence, policy interference, misplaced priorities, misdirection, ambiguity tactics and counterproductive action.

Taking into account the current literature research of scholars at home and abroad, as well as the definition of "greenwashing" behavior, the main practices are classified into the following types.

2.1.1. False or Exaggerated Environmental Claims.

For example, some financial institutions or corporations claim that their portfolios are "Paris-compliant" or "zero-carbon", but in fact they have not taken sufficient mitigation measures, climate risk assessments, or transformed their financial instruments to support the achievement of these goals, and have merely made empty promises. They are merely empty promises that lack substantive action.

2.1.2. Ambiguous Sustainability Terminology.

Entities may label products or services with ill-defined terms like "green investments" or "eco-friendly funds," exploiting semantic vagueness to mislead investors into

believing they meet rigorous sustainability criteria. In reality, these claims frequently lack clear benchmarks or accountability.

2.1.3. Marketing without Data Support.

Typically, companies claim through advertisements or other media channels that their products are "100% compliant with ESG standards", but do not provide transparent and verifiable data to substantiate their claims.

2.1.4. Misleading Labels and Certifications.

Some financial products or firms use green labels that are not certified by authoritative organizations to mislead investors into believing that they meet strict sustainability standards, when in fact these certifications may not be credible.

2.1.5. Selective Information Disclosure

It refers to the fact that enterprises intentionally hide or downplay their negative impacts on the environment in ESG information disclosure, or intentionally ignore or hide the negative impacts in the production, use and disposal of their products in their advertisements, and only disclose part of the information that meets the green standards. For example, only the proportion of investment in renewable energy is listed, but no mention is made of the serious pollution emissions in the production process.

2.2. Case of "Greenwashing" in ESG Disclosure by Listed Companies

2.2.1. Volkswagen Emissions Scandal (2015)

In September 2015, the U.S. Environmental Protection Agency (EPA) exposed Volkswagen's systematic falsification of diesel vehicle emissions tests, through the installation of "Defeat Device" software, tampering with the actual driving of pollutant emissions data, this scandal involves about 11 million diesel vehicles around the world, and has become one of the largest environmental fraud cases in the history of the automotive industry.

In its ESG report, Volkswagen claimed that all of its vehicles meet the world's toughest emissions standards and emphasized that it "reduces its environmental footprint through innovative technologies." But an EPA investigation found that VW had been pre-installing failsafes in its diesel vehicles since 2009, and that company executives had been aware of the fraud. In the end, the U.S. Department of Justice imposed a \$4.3 billion criminal fine on VW, a record for corporate environmental fines. VW's former CEO Martin Winterkorn was indicted by German prosecutors for fraud. VW's brand image suffered serious damage, its market capitalization shrunk significantly, and it lost the trust of some investors and consumers.

2.2.2. Deutsche Bank Subsidiary DWS's ESG Greenwashing Scandal (2021)

In August 2021, Deutsche Bank's asset manager DWS was reported by Desiree Fixler, a former head of sustainability, alleging that it had chronically inflated the size of its ESG investment assets and systematically falsified its ESG ratings. The report triggered a joint investigation by the U.S. Securities and Exchange Commission (SEC) and Germany's Federal Financial Supervisory Authority (BaFin), and became a landmark case of ESG "greenwashing" in the global asset management industry.

In its 2020 annual report, DWS claims to have €72.9 billion in ESG-integrated assets (18.8% of total assets under management) and states that ESG criteria are fully embedded

in its investment process. But internal documents show that many of the funds categorized as "ESG-integrated" do not actually apply ESG screening criteria. For example, one ESG fund still includes fossil fuel companies and military stocks in its portfolio. Meanwhile, DWS's ESG rating process relies on "surface compliance" strategies, such as meeting minimum requirements by excluding tobacco or weapons manufacturers, without substantively evaluating a company's sustainability performance.

Finally, the SEC filed a lawsuit charging DWS with violating Section 206(4) of the Investment Advisers Act, and DWS was fined \$25 million and mandated to overhaul its ESG disclosure process. The German regulator fined DWS €8.7 million and ordered a re-audit of the 2018-2021 ESG reports.

3. Regulation of "Greenwashing" of ESG Disclosure by Listed Companies

3.1. Regulation of "Greenwashing" of ESG Disclosure in China's Mainland

China currently lacks dedicated legislation specifically targeting greenwashing in advertising or carbon neutrality claims. In the absence of specialized greenwashing laws, China relies on existing legislation to regulate deceptive ESG-related practice, such as the *Law of the People's Republic of China on Anti-Unfair Competition*, the *Law of the People's Republic of China on Advertising*, the *Law of the People's Republic of China on Protection of Consumers' Rights and Interests*, the *Law of the People's Republic of China on Product Quality*, and the *Criminal Law of the People's Republic of China*. Secondly, through the relevant documents issued by the Securities and Futures Commission (SFC) and stock exchanges to regulate the disclosure of ESG information by listed companies.

As a whole, false or misleading publicity by companies about their environmental attributes may constitute false publicity acts under the *Law of the People's Republic of China on Anti-Unfair Competition*, false advertisements under the *Law of the People's Republic of China on Advertising*, infringement of consumers' rights and interests under the *Law of the People's Republic of China on Protection of Consumers' Rights and Interests*, counterfeiting or fraudulent use of certification marks under the *Law of the People's Republic of China on Product Quality*, and the crime of false advertising under the *Criminal Law of the People's Republic of China*. The *Law of the People's Republic of China on Securities Investment Funds* restricts the disclosure of false environmental performance of funds, but the penalties are relatively light and the deterrent effect on "greenwashing" is not high. Violation of the above laws and regulations may result in fines, confiscation of illegal income, or even revocation of business licenses, and the need to pay compensation to consumers who have been harmed, or, if the circumstances are serious, to incur criminal liability.

China has established a basic legal framework to regulate "greenwashing" at several levels, but special legislation and enhanced enforcement are needed to address the increasingly complex challenges of ESG information fraud.

3.2. International Experience and Insights: Global Paths to ESG Disclosure Regulation and "Greenwash" Governance

In recent years, the world has strengthened the regulation of ESG disclosure to prevent enterprises from "greenwashing" by falsely or exaggerating their sustainability performance. The European Union, the United States and Hong Kong have successively established a relatively mature ESG disclosure regulatory system. Comparing the experiences of these three places can provide valuable experience for the construction of ESG disclosure system in China's mainland.

3.2.1. The Evolution from Voluntary to Mandatory ESG Disclosure in China

Hong Kong, the European Union, and the United States have all undergone a transition from voluntary to mandatory ESG disclosure.

As early as 2012, the Hong Kong Stock Exchange began promoting the establishment and improvement of ESG disclosure frameworks by issuing the *ESG Reporting Guide*. Initially, ESG disclosure was primarily voluntary. However, due to inconsistent quality of reports, Hong Kong began actively advancing ESG disclosure reform under the guidance of the Task Force on Climate-related Financial Disclosures (TCFD) starting in 2016. In 2021, it released the *Guidance on Climate Disclosures*, under which certain ESG information became semi-mandatory. Listed companies were also required to follow a "comply or explain" approach.

The EU, through the iteration of the Non-Financial Reporting Directive (NFRD) to the Corporate Sustainability Reporting Directive (CSRD), has significantly extended the scope of disclosure to include all EU companies that meet the criteria of large enterprises; all listed companies except micro-listed companies; and non-EU companies with annual revenues of more than €100 million in Europe and with at least one subsidiary or branch in the EU. Non-EU companies with annual revenues of more than €150 million in Europe and at least one subsidiary or branch in the EU. For these applicable entities, the CSRD's effective date is further cascaded into the following three scenarios: 2024 for large companies subject to the NFRD, 2025 to extend to other large and listed companies, 2026 to include listed SMEs, and 2028 to include non-EU companies that meet the criteria. At the same time, the CSRD introduces the groundbreaking "dual materiality principle". This principle requires companies to not only disclose the impact of their activities on ESG, but also report on the potential risks that ESG issues may bring. The CSR also introduced a third-party audit system to reduce the room for companies to operate in a "greenwash" manner. In terms of penalties, the CSRD grants EU member states the right to penalize companies by prohibiting them from continuing their illegal activities, publicizing them and their illegal activities, and imposing administrative fines. In addition to penalties, member states also have the right to adjust the scope of application of the CSRD, disclosure standards, directors' responsibilities, etc., which significantly increases the cost of "greenwashing" enterprises. Therefore, CSRD is considered one of the most stringent ESG disclosure frameworks in the world for "greenwash" regulation.

The U.S. Federal Trade Commission (FTC) issued the *Guidelines for the Use of Environmental Marketing Statements* as early as 1992, requiring all environmental marketing statements to be clear and specific and supported

by sound scientific evidence. In order to further improve the ESG disclosure system in the US, the Securities and Exchange Commission (SEC) adopted the official *Final Rule to Enhance and Standardize Climate-Related Disclosure for Investors* in 2024, and similar to the CSRD, the proposal will go into effect in phases, taking into account the differences in carbon emissions of different companies. The proposal requires that listed companies need to disclose climate-related information in their annual reports as well as registration statements, including the impact of climate-related risks on the company's business and strategy, risk management processes, and greenhouse gas emissions. Its highly mandatory and requires all listed companies to provide their own true ESG information or they may face legal liability. In addition to government regulation, the Nasdaq exchange has issued detailed ESG reporting guidelines that provide a disclosure framework for companies and encourage voluntary compliance.

3.2.2. Quantification of ESG Disclosure Indicators

Hong Kong, the EU and the US all emphasize the clarity and enforceability of disclosure standards. Firstly, Hong Kong 2021 issued the *Guidelines on Environmental Key Performance Indicators* (KPIs), which details the calculation and disclosure methods for core ESG data such as greenhouse gas emissions, energy consumption, water management and waste management, quantifies the disclosure requirements, and reduces ambiguous representations. Meanwhile, in order to harmonize the ESG disclosure framework, the Stock Exchange will make it mandatory for listed companies to adopt the TCFD framework from 2025. The EU has built the world's most stringent ESG disclosure and anti-greenwash system through the CSRD, the *Sustainable Financial Disclosure Regulation* (SFDR) and the *Taxonomy Regulation*. The SFDR divides financial products into three categories: Article 6 products, which are general products that do not emphasize ESG; Article 8 products, which promote environmentally or socially responsible characteristics; and Article 9 products, which focus on sustainable investment. Financial products must be strictly categorized and labeled to prevent misleading advertising. The *Taxonomy Regulation*, on the other hand, scientifically defines ESG boundaries with six environmental objectives and four criteria. The U.S. *Final Rule on the Enhancement and Standardization of Climate-Related Disclosures for Investors* also reflects the emphasis on clarity and enforceability of disclosure standards.

3.2.3. Implications for ESG Disclosure Regulation in Hong Kong, the EU and the US

China is facing the challenges of frequent "greenwashing" and insufficient enforcement of the system, and urgently needs to learn from international experience and improve the relevant regulatory system. The development of ESG regulation in Hong Kong, the European Union and the United States provides valuable reference for China.

First, the development of mandatory disclosure is a key path to curbing "greenwashing". The principle of "comply or explain" adopted by the Hong Kong Exchanges and Clearing Limited can effectively reduce the room for enterprises to avoid disclosure. In the EU, mandatory disclosure is being promoted in phases through the CSRD. All these systems reflect the trend of changing from encouraging voluntary disclosure to mandatory disclosure, providing a practical blueprint for China to implement mandatory disclosure. China can refer to the CSRD and implement mandatory disclosure in phases, taking the lead in covering high-carbon

industries such as power and chemical industries.

Secondly, all three jurisdictions place a strong emphasis on the quantification of disclosure content. Hong Kong's *Guidance on Environmental Key Performance Indicators*, the EU's *European Sustainability Reporting Standards* (ESRS), and the U.S. regulations that clearly define green labels such as "carbon neutral" and "biodegradable" all reflect a focus on refining disclosure standards. In contrast, ESG disclosures in China's mainland still lack standardized quantitative indicators, resulting in disclosures that are often vague and unclear. Therefore, China should develop a unified and highly operable system of ESG metrics and establish clear quantitative definitions for key terms to make disclosure requirements more explicit and reduce the room for greenwashing.

In addition, all three places have established more mature regulatory and auditing mechanisms. Hong Kong has adopted a multi-level regulatory system, including joint regulation by the government, exchanges and market organizations, while encouraging companies to introduce third-party audits. In order to enhance market trust in ESG disclosure, the European Union has gradually introduced a public monitoring mechanism. 2022, Europe's three major financial regulators (ESAs) launched a complaint platform for ESG "greenwashing", allowing the public, NGOs and investors to report suspicious ESG statements. On the contrary, in China, ESG reports are mostly issued by companies on their own, and it is difficult to guarantee the authenticity of the information. China can introduce a third-party auditing system and strengthen the supervision of ESG rating agencies to ensure the fairness and credibility of the information, prevent problems such as inflated ratings, and make it easier to detect "greenwashing" behavior. At the same time, China can learn from the EU's practice to set up a national ESG information sharing platform and open a special complaint channel for "greenwashing" behavior. The platform can include interpretation of regulations, inquiries on corporate ESG disclosure information, ESG rating information, etc., and accept public reports to enhance social supervision.

In terms of governance structure, the EU and the United States place special emphasis on multi-stakeholder governance. For example, under the CSRD framework, the EU has authorized the European Financial Reporting Advisory Group (EFRAG) to formulate ESG reporting standards, and has brought together the views of governments, enterprises, investors and NGOs to ensure that the standards are more in line with market demand. In contrast, China's current ESG rulemaking is mainly led by the government and lacks the participation of multiple actors. In the future, industry associations, green financial institutions and environmental organizations can be allowed to play a greater role in the development of ESG rating and disclosure standards.

4. Specific Path to Improve the Regulation of "Greenwashing" Behavior of ESG Disclosure of Listed Companies

4.1. Harmonization of ESG Disclosure Standards

4.1.1. Establish a Unified ESG Disclosure Standard Aligned with International Standard

On April 12, 2024, the Shanghai, Shenzhen, and Beijing Stock Exchanges jointly issued the Guidelines for the Sustainability Reporting of Listed Companies, marking China's first systematic ESG disclosure regulation. The Guidelines aim to regulate the disclosure of sustainability information by listed companies and promote the integration of sustainability concepts into strategic management. The Guidelines specify the subjects of mandatory disclosure, including the sample companies of SSE 180, KIC 50, SZSE 100, GEM Index, as well as companies listed both domestically and internationally. They are required to disclose the 2025 annual sustainability report for the first time by April 30, 2026 at the latest. Other listed companies are encouraged to disclose voluntarily, but are required to strictly follow the unified standard. The timing of disclosure is also required, and companies are required to disclose their sustainability reports within four months after the end of each fiscal year, and not earlier than the release of the annual report. At the same time, the Guidelines emphasize that the disclosure of information should follow the principle of "double materiality", which means the financial impact and the social and environmental impact are equally important.

On December 17, 2024, China's Ministry of Finance, in collaboration with the Ministry of Foreign Affairs, the National Development and Reform Commission, and six other ministries, officially released the *Corporate Sustainability Disclosure Standards—Basic Standards*, marking the launch of China's sustainable disclosure regulatory framework. With six chapters and 31 articles, the Guidelines not only focus on the principle of double materiality, but also specify a phased implementation strategy to gradually promote ESG disclosure. It gradually covers from listed companies to small and medium-sized enterprises, gradually transitions from voluntary disclosure to mandatory disclosure, and prioritizes pilot projects in energy-consuming industries and gradually extends to other industries. The Guidelines refer to the International Sustainability Standards (ISSB), which not only enhances the international recognition of ESG information of Chinese enterprises, but also reduces the barriers to cross-border investment and financing, and this system is a milestone in the institutionalization of China's ESG information disclosure. It both benchmarks international standards and highlights Chinese characteristics.

Nowadays, the phenomenon of "greenwashing" of listed companies is frequent, China should integrate domestic and foreign ESG-related standards, and establish unified ESG disclosure standards, taking into account the needs of localization while considering the needs of international investors. First of all, when formulating unified ESG disclosure standards for listed companies, regulators should take into account China's national conditions and pay attention to hot social issues such as carbon neutrality. In terms of social responsibility, it should reflect policy orientations such as rural revitalization and common wealth.

Secondly, the standard must be operable. the calculation methods and parameters of ESG indicators need to be clearly listed, and the calculation formulas, parameters taken and the range of values should be explained in detail in the appendix part of the disclosure standard, which will help to reduce the subjectivity in the disclosure process of the enterprises and ensure the accuracy and consistency of the data. For example, for carbon emission indicators, the calculation range, emission factors and measurement methods must be clearly specified to prevent data bias due to non-uniform methods. Considering that different enterprises have different industries, scales and environmental risks, it is crucial to realize classification and hierarchical management. For example, enterprises in highly polluting industries should disclose more detailed environmental information, while those in the financial sector may focus more on information on governance and social responsibility. Such a categorized approach to management is relevant and avoids a "one-size-fits-all" approach, ensuring the feasibility of the standards.

4.1.2. Balance between Mandatory and Voluntary Disclosure

According to *The White Paper on China's ESG Practices* data, the disclosure rate of ESG reports among listed companies with market capitalization of more than 100 billion yuan in 2021 has exceeded 90%; however, the disclosure rate of companies with market capitalization of less than 10 billion yuan is less than 30%. This reflects the unevenness in ESG disclosure level capabilities of enterprises of different sizes. Referring to the ESG practice experience around the world, the gradual mandatory disclosure of information needs to reserve time for enterprises to adapt to the policy changes. [3] If mandatory ESG disclosure is fully implemented immediately, it may increase the compliance costs of small and mid-cap listed companies, making it difficult for them to adapt to the new regulatory requirements. Therefore, the mandatory nature of information disclosure needs to be implemented gradually. The best approach at present is to establish an ESG disclosure system that combines both mandatory and voluntary elements. However, the challenge now is how to strike a balance between mandatory and voluntary disclosure, which has become the focal point of current discussions.

Mandatory disclosure can ensure that enterprises disclose key information, enhance market transparency and safeguard investors' rights and interests, while reducing information asymmetry and avoiding selective disclosure or even deliberate concealment of unfavorable data by enterprises, thereby improving market efficiency. Voluntary disclosure, on the other hand, gives companies the flexibility to proactively disclose ESG information beyond the legal requirements according to their own characteristics and development strategies. This not only helps enterprises to demonstrate their unique advantages in sustainable development, but also establishes a good brand image and better wins the trust of consumers. Therefore, mandatory and voluntary disclosure are not opposites, but rather complementary.

In order to establish a scientific ESG information disclosure system combining mandatory and voluntary disclosure, the strategy of gradually expanding the scope of mandatory disclosure can be adopted and regularly adjusted in conjunction with industry development and technological progress. At the same time, enterprises can be encouraged to voluntarily disclose more ESG information through policy

incentives, such as providing substantive support such as tax incentives, tilted green bond issuance quota, and government procurement priority, so as to increase the motivation of enterprises. In addition, it is also necessary to establish a sound regulatory mechanism to ensure the enforcement of mandatory disclosure, and at the same time, through training and guidance, to enhance enterprises' awareness of ESG information disclosure and strengthen their willingness to disclose ESG information.

4.2. Building a Diversified ESG Regulatory System

4.2.1. Government-led ESG Regulation Centered on Legislation.

The current domestic regulatory framework on "greenwash" is still fragmented and scattered, with different policy objectives of institutions such as the Securities and Futures Commission, the State-owned Assets Supervision and Administration Commission of the State Council, and the People's Bank of China, and thus lacks a certain degree of holistic vision to safeguard the applicability of the disclosure rules. At the legal level, although it has a mandatory effect, the field of application of mandatory disclosure of ESG information is still relatively narrow, and there are still some blank areas, which sometimes makes it difficult to play a proper binding role in practice. Due to the lack of rigid constraints, it is easy to become the incubation soil for "greenwashing" behavior, therefore, relevant laws or judicial interpretations should be issued as soon as possible to improve the legislative level of ESG information disclosure of listed companies, and to force listed companies to disclose. [4]

The government assumes the core role of enacting laws, setting standards and supervising implementation in ESG regulation. Through the introduction of relevant laws and regulations, the government can clarify the obligations and responsibilities of enterprises in ESG information disclosure, and ensure the authenticity and comparability of the information, which is the most powerful and effective way to regulate "greenwashing" behavior. In terms of the legislation on ESG disclosure, it mainly comes from the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Securities Investment Funds Law of the People's Republic of China* and other laws, as well as the regulations of the supervisory authorities and the rules and guidelines of various stock exchanges. In the case that the existing laws are relatively decentralized, the integration and coordination of the legal system should be strengthened to establish the general structure and basic principles of ESG information disclosure in the higher-level law, and set up specific norms for information disclosure in different fields and industry sectors in the lower-level law, so as to form the hierarchical structure of the ESG information disclosure system.

In addition, China has not yet issued any standardized document to regulate the accountability of "greenwashing". In order to ensure the effective implementation of the ESG disclosure system, the penalties for "greenwashing" should be increased. If the penalties for "greenwashing" are too light or the supervision is not effective, it will be difficult to effectively curb the occurrence of similar behavior. Therefore, economic punishment, behavioral punishment, reputation punishment and other means can be used comprehensively to promote the regulation from multiple perspectives to further

curb the phenomenon of "greenwashing". [5] The greater the cost of "greenwashing", and the smaller the profit gap between "greenwashing" and the actual practice of sustainable behavior, the incentive for companies to "greenwash" will gradually disappear.

4.2.2. Collaborative Governance between Industry Associations and Third-Party Auditing Firms

Since China has not yet established a comprehensive official ESG disclosure evaluation system, Chinese regulators and investors mostly rely on ESG evaluation reports issued by third-party auditing organizations as their main reference. This places higher demands on the evaluation effectiveness of third-party auditing institutions. However, in the process of ESG information disclosure of Chinese listed companies, the evaluation reports issued by third-party organizations are not effective. Firstly, the descriptions of the matters in the evaluation reports issued by them are vague, and there is a lack of quantitative descriptions and qualitative descriptions of many disclosure matters. Secondly, the assessment reports issued by different organizations are often quite different.

The development of independent third-party auditing organizations is crucial to enhancing the credibility of ESG reports. In order to promote the healthy development of this field, regulators can start from the following aspects. First, set strict practice qualification and standardization requirements for auditing organizations. Regulators should clarify the entry standards for third-party auditing organizations, requiring them to have professional backgrounds, team strengths and rich experience in ESG assessment. At the same time, the list of high-quality organizations with auditing qualifications should be updated regularly to ensure the professionalism and impartiality of the industry. Second, formulate ESG report assessment standards in line with China's national conditions. Referring to the international rules and regulations and combining them with China's actual situation, regulators should standardize the measurement standards and statistical methods. Clearly require auditing organizations to focus on the description of qualitative information disclosure and quantitative information disclosure in the report to prevent the auditing opinions from being too vague. In addition, a supervision mechanism should be established. Regulators should conduct regular or irregular inspections of the practice quality of auditing organizations, and set up a corresponding administrative penalty mechanism to take punitive measures against organizations with irregularities. For example, auditing organizations that exaggerate the ESG performance of enterprises, conceal unfavorable information or provide misleading reports may be subject to suspension of business and revocation of practice qualifications. Listed companies themselves should also establish an internal ESG monitoring mechanism and set up a specialized department to supervise the whole process of the company's actual ESG governance as well as information disclosure procedures. [6]

4.2.3. The Power of Investor and Public Oversight

As important participants in the market, investors and the public have an irreplaceable role to play in promoting the fulfillment of ESG responsibilities and curbing the phenomenon of "greenwashing". In order to utilize the power of investor and public supervision, government can consider setting up a nationwide ESG information sharing platform, which covers the interpretation of regulations, inquiries on ESG disclosure information of enterprises, ESG ratings, etc., and setting up a special complaint channel for "greenwashing" behavior. Through this platform, investors

and the public can conveniently access ESG-related information of enterprises and understand their performance in sustainable development, so as to make more informed investment or consumption decisions. At the same time, the establishment of the complaint channel provides a way for the public to provide direct feedback on corporate misbehavior, forming an effective external constraint. Non-governmental organizations and the media also play an important role in exposing corporate "greenwashing". Environmental organizations, industry associations and other institutions should be encouraged to participate in ESG monitoring, and legal support or relevant policies should be introduced to ensure the effectiveness and legitimacy of their monitoring activities. The media, as a major channel of information dissemination, can guide public opinion by reporting on the ESG performance of enterprises, prompting listed companies to enhance their sense of social responsibility and avoid "greenwashing".

4.3. Optimizing ESG Information Management Using New Technologies

The development of technologies such as artificial intelligence and blockchain enables enterprises to collect, process and analyze massive environmental and operational data in real time to optimize the ESG disclosure process, so the use of big data can effectively optimize ESG information management. Against the backdrop of increasing global attention to sustainable development issues, companies should actively apply emerging technologies to ESG practices by integrating multi-channel data, adopting advanced data analysis tools, and establishing intelligent early warning systems to effectively curb listed companies' "greenwashing" behavior.

In ESG practice, the data involved in each industry is usually very complicated, and it is often difficult for enterprises to track ESG-related data of the whole chain. The traditional way of relying on enterprises' self-declaration not only has the problems of strong subjectivity and low transparency, but is also susceptible to human intervention, which leads to doubts about the authenticity of the data. In the absence of real-time monitoring and independent verification, it is difficult to detect "greenwashing" behavior in a timely manner. The introduction of blockchain technology provides a systematic solution to this problem. As a non-tamperable and traceable technology, blockchain has significant advantages in supply chain tracking, carbon emission management and other fields. By integrating with the Internet of Things, enterprises can collect environment-related data in real time under the premise of ensuring data security, ensuring the authenticity of ESG report data from the source. At the same time, once these data are collected and recorded, any modification will leave traces throughout the process, ensuring that the carbon footprint of the enterprise can be

verified in the whole process. This technological advantage helps ESG report writers to more accurately and quickly grasp the impact of each link in the entire supply chain on the environment, society and governance dimensions, and ensures that all data can be publicly verified, further enhancing the credibility of ESG reports. When every environmental investment and every emission reduction action is objectively recorded and traceable by, ESG disclosure is no longer just a paper promise, but a quantifiable and verifiable action, thus effectively curbing "greenwashing" behavior and allowing enterprises to truly take responsibility for sustainable development.

5. Conclusion

This study systematically revealed the current challenges in China's legal regulation of greenwashing in ESG information disclosure framework. Key findings include the introduction of unified ESG disclosure standards, the need to balance mandatory and voluntary reporting to accommodate firms of different sizes, and the importance of diversified regulatory systems involving government, third-party institutions, investors, and the public. Additionally, the new technologies such as blockchain and AI offers improve data authenticity and traceability, effectively curbing greenwashing. However, gaps remain in legal enforcement, third-party audit quality, and public engagement. Future research should further explore the effectiveness of new disclosure standards in practice, assess the long-term impact of digital technologies on ESG data integrity, and examine cross-sectoral coordination mechanisms. Strengthening these areas can contribute to a more transparent and sustainable legal system in China.

References

- [1] Bowen, F. (2014). *After greenwashing: Symbolic corporate environmentalism and society*. Cambridge University Press.
- [2] Cong, J. H., & Liu, C. Q. (2011). A review and prospects of research on greenwashing behavior. *Northern Economy and Trade*, (3), 24–25.
- [3] Xie, J., Wataru, N., Michiyuki, Y., Hidemichi, F., & Shunsuke, M. (2019). Do environmental, social, and governance activities improve corporate financial performance? *Business Strategy and the Environment*, 28(2), 286–300.
- [4] Guan, T., & Wang, Y. F. (2024). ESG disclosure of listed companies: Mode comparison, risk review, and resolution paths. *Southwest Finance*, (9), 43–53.
- [5] Song, F. H. (2022). Typical risks and governance approaches of corporate "greenwashing" under the "dual-carbon" targets. *Enterprise Economy*, (3), 6–12.
- [6] Zhao, Y. H. (2023). Institutional defects and improvement paths of ESG disclosure of listed companies in China. *Social Scientist*, (11), 77–83.