

Research on the Legal Regulation of Enterprise Environmental Information Disclosure under the “Dual Carbon” Goals

Kejing Yuan

School of Artificial Intelligence and Law, Southwest University of Political Science and Law, Yubei District, Chongqing, 401120, China
Email: kejingyuan2025@outlook.com

Abstract:

In the context of the “dual carbon” goals, corporate environmental information disclosure has become an important mechanism for promoting green and low-carbon development. From the perspective of legal regulation, this article makes a horizontal comparison between China’s legislation and that of foreign countries, analyzes the current situation and problems of China’s enterprise environmental information disclosure system, and explores how to build a more complete legal system to enhance the transparency, standardization and enforceability of information disclosure. The study found that the current legal system in China has problems such as insufficient compulsion, inconsistent standards, and weak accountability mechanisms. To this end, this article suggests optimizing legal regulations from aspects such as legislative improvement, standard refinement, supervision strengthening, and accountability, in order to enhance the quality of environmental information disclosure by enterprises and contribute to the realization of the “dual carbon” goals.

Keywords: Dual carbon goals, Environmental information disclosure, Legal regulation, Corporate responsibility

1. Introduction

As global climate change becomes increasingly serious, China, one of the world’s largest carbon emitters, set the “dual carbon” goals of peaking carbon emissions before 2030 and achieving carbon neutrality before 2060 in 2020. Against this backdrop, corporate environmental behavior, as a major source of carbon emissions, has a significant impact on sustainable social development. Environmental disclosure

is an important way for companies to disclose their environmental performance to the public, investors and regulators, which helps to enhance corporate transparency, promote green investment and drive the low-carbon transition.

However, there are still many deficiencies in the legal regulation of corporate environmental information disclosure in China, such as limited mandatory disclosure requirements, inconsistent disclosure standards, and imperfect regulatory mechanisms, which

result in uneven quality of information disclosure and make it difficult to meet the regulatory requirements under the “dual carbon” goals. Therefore, how to improve legal regulations and enhance the effectiveness of enterprises’ environmental information disclosure has become an urgent issue to be studied at present. The core issue is how to build a resilient disclosure ecosystem that ensures the quality of environmental information while maintaining the sustainable development capabilities of enterprises. A dynamic assessment mechanism should be established during the implementation process to adjust technical parameters and policy intensity in a timely manner.

The objective of this study is to build a disclosure standard system that ADAPTS to the “dual carbon” process, balance the intensity of information disclosure with the cost of corporate compliance, and enable digital regulatory technology to empower traditional environmental law enforcement; Reveal the mechanism of the legal regulation of environmental information disclosure on enterprises’ emission reduction behaviors, and improve the theoretical framework of “climate rule of law”; Propose a “mandatory + incentive” disclosure regulation model that suits China’s national conditions to fill the gap in the cross-study of environmental law and corporate governance; Design hierarchical and categorized regulatory schemes to optimize the efficiency of government environmental law enforcement. This article will, from a legal perspective, analyze the new requirements for enterprises’ environmental information disclosure brought about by the “dual carbon” goals, make a horizontal comparison of the relevant legal regulations on environmental information disclosure of enterprises in China and other countries, sort out the deficiencies of the existing legal regulations, and put forward optimization suggestions, with the aim of providing theoretical references for the improvement of China’s environmental governance system.

2 Review of the Literature

Existing research suggests strengthening legal binding force, legalizing environmental information disclosure, specifying specific disclosure content and standards, and enhancing legal enforceability; Establish an incentive and punishment system, propose measures such as tax incentives and fines, and set up a complete incentive and punishment mechanism to encourage enterprises to disclose information voluntarily. Align with international standards, advocate the introduction of international norms such as GRI and TCFD, and promote the international standardization process of environmental information disclosure by Chinese enterprises.

However, there are still unresolved issues in the existing

research: the depth of interdisciplinary analysis between law and economics is insufficient, and the cost-benefit analysis of disclosure regulation remains at the qualitative level; There is a lack of quantitative research on the cost of corporate compliance and the benefits of emissions reduction; Most papers do not contain empirical data on corporate compliance costs; Empirical research sample bias, with an excessive focus on listed companies and a neglect of small and medium-sized enterprises; The regional differentiation rules are somewhat blank, and regional development disparities are not taken into account, such as the impact of development differences between the eastern and western regions of China on disclosure standards, and research on collaborative disclosure mechanisms in key regions such as the Beijing-Tianjin-Hebei region is lacking.

The current system for enterprises’ environmental information disclosure in China is the “Measures for the Disclosure of Environmental Information (Trial)” which has already been implemented. However, this regulation only mandates that heavily polluting enterprises that discharge pollutants in excess of standards or exceed the prescribed limits of total pollutant emissions should disclose their environmental information, and the environmental information required to be disclosed is not detailed enough. [1] In summary, current research has achieved a paradigm shift from “whether to disclose” to “how to disclose effectively”, but there are still significant knowledge gaps in areas such as dynamic standard setting, digital regulatory compliance, and alignment with international rules, urgently requiring interdisciplinary collaborative innovation.

3 Argumentative analysis

3.1 Overview of Enterprise Environmental Information Disclosure

(1) Overview of corporate environmental information disclosure

Corporate Environmental Disclosure refers to the act by which a company discloses its environmental performance, risks and management activities to stakeholders such as the government, investors and the public through legal or voluntary means. According to the Measures for the Administration of the Disclosure of Environmental Information in accordance with the Law, corporate environmental information disclosure includes mandatory disclosure and voluntary disclosure: mandatory disclosure is for statutory contents such as pollutant emissions and carbon emissions, and voluntary disclosure is for environmental public welfare activities, sustainable development plans, etc.

After the “30·60” carbon goals were proposed in 2020, The State Council successively introduced 12 supporting policies such as the “Action Plan for Carbon Peaking before 2030”; In 2022, the Ministry of Ecology and Environment implemented the reform plan for the disclosure of Environmental information in accordance with the law, mandatorily requiring key enterprises to disclose carbon data; In 2023, the Interim Regulations on the Administration of Carbon Emission Rights Trading will incorporate environmental information disclosure into the national carbon market regulatory framework.

The corporate environmental information disclosure system caters to the public’s strong demand for the right to know. It can serve as a window for corporate environmental risk management, demonstrating its attitude towards energy conservation and emission reduction and green and low-carbon development, and integrating concepts such as energy conservation and emission reduction and green and sustainable development into government decision-making on the premise of supervising enterprises to fulfill their environmental protection obligations and responsibilities. Effectively reducing or preventing the impact of a country’s environmental pollution risks is important for enterprises to pursue the goal of maximizing value.

As climate change and the circular economy have become hot topics of discussion, many countries, including China, have conducted relevant theoretical research and practical exploration on the legal system of corporate environmental information disclosure, and have achieved relatively rich research results and practical experience.

(2) Overview of Existing Problems in corporate environmental information disclosure

The first compliance period of the national carbon market covered emissions of 4.5 billion tons, but the rate of disputes over the quality of corporate carbon emissions data reached 23%, and the scale of green finance exceeded 20 trillion yuan, but the proportion of “greenwashing” caused by environmental information asymmetry reached 34%.

However, the long-term high disclosure costs and the fluctuating return on investment have deterred many enterprises, and false and misleading disclosures are widespread. At the same time, the existence of high-pressure government regulation and the strong information demands of stakeholders have exerted inevitable pressure on enterprises.

3.2 The impact of the introduction of the dual carbon goals on corporate environmental information disclosure

The proposal of the “dual carbon” goals not only reshaped the development logic of China’s economy and society,

but also had an all-round and deep impact on corporate environmental information disclosure. This impact is reflected in both mandatory constraints at the policy level and spontaneous drives by market mechanisms, while also promoting a systematic upgrade of disclosure content, standards and capabilities.

(1) An increase in the strictness of disclosure requirements After the implementation of the dual carbon goals, environmental information disclosure has gradually shifted from an encouraging policy orientation in the past to a legally binding rigid requirement, and the pressure on enterprises to disclose compliance has significantly increased.

1. Laws and regulations are being improved at an accelerated pace

China has successively introduced policies such as the “Reform Plan for the System of Environmental Information Disclosure in Accordance with the Law” and the “Measures for the Administration of Environmental Information Disclosure by Enterprises in Accordance with the Law”, explicitly including “carbon emission information” within the scope of mandatory disclosure. For example, key polluters, listed companies, bond-issuing enterprises and other entities are required to disclose core data such as total carbon emissions, intensity, reduction measures and results, even down to details such as energy consumption structure and carbon sink offsetting.

2 Industry-specific constraints have been strengthened

In addition, high energy-consuming and high-emission industries have become the focus of regulation. Take the power, steel, cement and chemical industries as examples. The policy requires them not only to disclose carbon emissions from their own production processes, but also to gradually cover carbon emissions data from purchased energy and upstream and downstream supply chains, forcing enterprises to establish a full-chain carbon management system.

3. Greater penalties

For enterprises that fail to disclose as required, provide false or incomplete data, regulatory authorities may impose fines, credit penalties, and even affect their qualifications for financing and project approval. Such “hard constraints” directly push enterprises to incorporate environmental information disclosure into their core compliance processes.

(2) Market mechanisms push for upgraded disclosure requirements

Under the dual carbon goals, the market’s attention to the low-carbon transformation of enterprises has significantly increased. Environmental information disclosure has become an important stepping stone for enterprises to participate in market competition and obtain resources, rather than merely a cost burden.

1 Capital demand deepens the concept of disclosure
ESG investment concepts are spreading rapidly, with institutional investors using carbon emissions data as a core indicator for assessing corporate risk and value. For example, the Shanghai and Shenzhen stock exchanges require listed companies to disclose ESG information separately in their annual reports, with “carbon emissions management” being a key section; International capital such as the world’s largest sovereign fund, the Norwegian Sovereign Fund, explicitly excludes companies that have not fully disclosed their carbon information from their portfolios. Companies have to proactively increase the transparency and granularity of their disclosures in an effort to attract capital. At the same time, core companies have added “carbon disclosure” requirements to their supply chain management. If upstream suppliers fail to provide carbon emission data, they may face the risk of termination of cooperation, such as the carbon reduction audits of suppliers by companies like Apple and Huawei.

2 Consumer and supply chain pressure transmission
The rising consumer preference for low-carbon products has forced companies to prove the green attributes of their products by disclosing carbon emission data, such as new energy vehicle companies disclosing their full life cycle carbon footprint; In addition, proactive and comprehensive carbon information disclosure has become an important means for companies to shape a low-carbon image. For instance, new energy companies enhance public trust by disclosing their emissions reduction achievements, while traditional manufacturing companies break their high-carbon image by disclosing their transformation plans. This reputation mechanism further encourages companies to improve the quality of their disclosures.

(3) More precise disclosures

The dual carbon goals push corporate environmental information disclosure to extend from the past simple emissions to “full life cycle management of carbon emissions”, with a greater focus on systematic control of the entire process of carbon emissions from birth to death.

Companies are required to disclose indirect carbon emissions from upstream and downstream links, including raw material production and logistics transportation stages. For example, automotive companies need to disclose the carbon footprint of battery raw material mining and component transportation in addition to vehicle production, which requires companies to build cross-subject data collection and accounting capabilities.

In addition, the policy requires companies to disclose not only their historical carbon emissions data, but also their carbon peaking roadmaps and carbon neutrality target breakdown plans for the next 5-10 years, making the disclosed content more forward-looking.

(4) Extensive use of digital tools

Enterprises achieve real-time monitoring of carbon emissions through technologies such as the Internet of Things and blockchain. For example, high energy-consuming enterprises install online carbon metering devices to collect real-time energy consumption data of boilers and kilns, and use blockchain evidence to ensure that the data cannot be tampered with; Some companies have introduced carbon management platforms that automatically generate reports in compliance with disclosure requirements, reducing human error.

The policy encourages companies to hire third-party institutions to verify carbon emissions data to ensure the authenticity of disclosures. For example, the carbon information in the annual reports of listed companies requires verification reports issued by accounting firms or professional carbon verification institutions, which has driven the rapid development of the carbon verification industry and also forced enterprises to enhance their internal data management capabilities.

(V) Disclosure standards are in line with international standards

The dual carbon goals are a global consensus, and international carbon regulatory rules impose higher requirements on the disclosure of Chinese enterprises, forming an “internal and external linkage” constraint mechanism.

Export companies face significant “carbon barrier” pressure. For example, the EU CBAM requires importers to report carbon emissions data from the production process of their products. If companies fail to provide compliant carbon information, they will be subject to additional carbon tariffs. For example, when Chinese steel and aluminium products are exported to the EU, they are required to disclose carbon emissions throughout the entire production process in accordance with EU standards, which demands that the disclosure standards of enterprises be in line with international standards.

Multinational companies face double disclosure pressure. Foreign-funded companies in China have to meet both China’s mandatory disclosure requirements and the standards of their parent countries. For instance, subsidiaries of Microsoft and Apple in China have to disclose carbon data in accordance with Chinese rules and be included in the global carbon neutrality report, promoting the alignment of China’s disclosure system with international standards.

3.3 Foreign Legislative Experience on Corporate Environmental Information Disclosure: A Case Study of the United States

As the first country to adopt information disclosure mea-

asures to enhance environmental governance, the United States has rich experience in theoretical basis, institutional system, regulatory regulations and other aspects. Based on the principle of meeting the needs of investors, the core of the environmental information disclosure legal system for enterprises in the United States consists of two aspects: the disclosure of toxic substance and waste emissions, which is mainly regulated by the Environmental Protection Agency, and the disclosure of environmental accounting information, which is jointly regulated by the Securities and Exchange Commission and other industry organizations. It not only reduces green trade barriers for businesses and enhances sustainable development capabilities, but also strengthens the federal government's regulatory power in areas such as macroeconomic order, ecological environment maintenance, and public interest protection. [2]

In comparison, the United States is currently the country with the most complete and mature information disclosure system. It has established a relatively complete system of environmental information disclosure legislation, specific legal provisions supporting environmental information disclosure, and financial accounting standards.

As early as the 1930s, the United States clearly defined the scope of disclosure. The Securities Act of 1933 and the Securities Exchange Act of 1934 in the United States established four types of environmental information that listed companies should disclose in their quarterly and annual reports: (1) Where environmental compliance has a significant impact on the company; (2) Major environmental-related legal proceedings in which the company is involved; (3) Discussions and analyses of the company's financial position by its management; (4) Contingent liabilities in the financial statements.

In addition to general environmental information disclosure legislation, there are more specific and detailed rules for environmental information disclosure. In 1982, the U.S. Securities and Exchange Commission (SEC) issued the S-K rules. The four provisions of this rule related to environmental information disclosure are Provisions 101, 103, 303 and 503, which will not be elaborated in detail here.

At present, the environmental responsibility of the United States has gone beyond the traditional concepts of pollution, compliance and control, and also includes the risks brought about by climate change and the foreseeable regulations related to climate change. In February 2010, the U.S. Securities and Exchange Commission issued an interpretive regulation to provide guidance for listed companies in fulfilling their existing disclosure requirements regarding climate change matters. The existing regulations of the U.S. Securities and Exchange Commission already

require the disclosure of significant impacts related to climate change. The newly issued interpretive regulations do not add new disclosure requirements or alter existing disclosure obligations, but instead emphasize four scenarios that may trigger disclosure obligations. [2]

3.4 Deficiencies in corporate environmental information disclosure legislation in China

At present, the legislative technology for environmental information disclosure of enterprises in our country is becoming increasingly mature, but there are still some urgent problems to be solved, such as small mandatory coverage, ambiguous standards, and weak accountability mechanisms.

(1) The mandatory coverage is limited

Shen Hongtao pointed out that environmental information disclosure by Chinese enterprises is still mainly voluntary, and the disclosed content is rather general and lacks comparability. The current law (Measures for the Administration of the Disclosure of Environmental Information by Enterprises in accordance with the Law) has relatively low mandatory requirements for the disclosure of environmental information by small enterprises, and many small and medium-sized enterprises are not explicitly required to disclose environmental information. Statistics in 2022 show that key polluters account for only about 5% of the total number of industrial enterprises in the country, and the environmental information of a large number of small and medium-sized enterprises is in regulatory blind spots. This leads to an inability to fully reflect the overall carbon footprint of the industrial chain and undermines the implementation effect of the "dual carbon" policy.

(2) The standards are ambiguous and lack uniformity

At present, the legal regulations have not explicitly required enterprises to disclose specific data within the scope, which may lead to selective disclosure by enterprises to evade responsibility for high-emission links. In contrast, the EU's Corporate Sustainability Reporting Directive (CSRD) clearly requires the disclosure of comprehensive carbon emission data, the existing laws in China are not yet complete.

(3) The accountability mechanism is weak

Enterprises can disclose environmental information on their own without the need for third-party institution certification, but the authenticity of the data is questionable. Without being linked to the credit information system, enterprises that violate regulations can still obtain policy support such as bank loans. In such cases, enterprises may choose to "pay fines" instead of making true disclosures. The European Union, the United States and other countries all require that the data disclosed by key enterprises

must be audited by independent institutions. In contrast, it is rather difficult for China to hold accountable for carbon emissions. Most of the cases released by the Ministry of Ecology and Environment show that no administrative penalties are imposed on first-time offenders

3.5 Suggestions for Improving the Relevant Legal Regulations on Environmental Information Disclosure of Enterprises in China

Through the analysis of the current situation of environmental information disclosure of enterprises in China and the horizontal comparison with carbon emission measures of other countries, the following inspirations can be drawn regarding the improvement of relevant legal regulations on enterprise information disclosure in China:

(1) Refine relevant laws: It is suggested that environmental information disclosure be legalized, specifying specific disclosure contents and standards, thereby enhancing the enforceability of the law; Distinguish between mandatory and voluntary disclosure subjects based on carbon emission intensity, enterprise size, industry attributes, etc., to avoid a one-size-fits-all approach.

(2) Improve the incentive and punishment system: Propose measures such as tax incentives and fines to make the cost of enterprises' violations higher than the cost of environmental information disclosure; Improve the responsibility setting, clarify the responsibilities of relevant individuals such as the legal representative, financial officer, and environmental protection officer of the enterprise, build a "full-chain" accountability mechanism, and promote the enterprise to disclose proactively through internal management personnel. Establish a dedicated management procedure for environmental information disclosure. [3]

(3) Aligning with international standards: Make horizontal comparisons with the carbon emission measures of the European Union and the United States, disextract and summarize the theoretical paradigms of developing countries enhancing environmental transparency through legal means, advocate the introduction of international norms such as GRI and TCFD, and align with international standards in aspects such as the definition of carbon emission scope and climate risk disclosure, promoting the international standardization process of environmental information disclosure by Chinese enterprises.

4. Conclusions

The proposal of the "dual carbon" goals not only reshapes

the development logic of China's economy and society, but also has an all-round and profound impact on the environmental information disclosure of enterprises. To achieve the dual carbon goals, it is indispensable to improve the environmental information disclosure system of enterprises and further enhance it.

From a legal perspective, this article analyzes the new requirements for enterprises' environmental information disclosure brought about by the "dual carbon" goals, makes a horizontal comparison of the relevant legal regulations on environmental information disclosure of enterprises in China and other countries, sorts out the deficiencies of the existing legal regulations, and puts forward optimization suggestions, with the aim of providing theoretical references for the improvement of China's environmental governance system.

At present, China's legal regulations still have problems such as small mandatory coverage, ambiguous standards and lack of uniformity, and weak accountability mechanisms. It is urgent to optimize them through measures such as refining relevant laws, improving incentive and punishment systems, strengthening supervision and implementing responsibilities, and aligning with international standards. China should further improve the regulations on environmental information disclosure by enterprises, use mature legislative techniques to guide the market to assume social responsibilities, and thereby promote the realization of the "dual carbon" goals.

In future research, the degree of interdisciplinary integration of research should be further enhanced to deeply explore the underlying logic of the predicament of enterprises' environmental information disclosure.

References

- [1]Xiong Bin & Chen Meiling.(2010). Legal Regulation of Corporate Environmental Responsibility under the Low-Carbon Economic Development Model. *Enterprise economy*, (08), 54-56, doi: 10.13529 / j.carol carroll nki enterprise. Pa. 2010.08.002.
- [2] Ding Ding & Huang Shengna.(2012). On the Legal Regulation of Environmental Information Disclosure by Chinese Enterprises: A Comparative Perspective of China and the United States. *Journal of international business (foreign economic and trade university)*, (01), 120-128. The doi: 10.13509 / j.carol carroll nki ib. 2012.01.002.
- [3] Yan Bin.(2008). On the Legal Regulation of Environmental Information Disclosure by Enterprises in China. *China Environmental Rule of Law*,(00),172-181.