



# Current Situation and Reflections of Environmental Accounting Information Disclosure in China's Iron and Steel Industry under the Background of "Double Carbon"

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**Abstract:** China plans to reach peak carbon use by 2030 and achieve carbon neutrality by 2060. This "double carbon" target makes the iron and steel industry, a high-consumption, heavy-polluting, energy-intensive industry, face great challenges. In order to achieve green transformation and promote its sustainable development, the iron and steel industry, as a national pillar industry, should raise awareness of environmental protection, increase environmental accounting information disclosure, and improve the level of environmental accounting information disclosure. This paper discusses the current situation of environmental accounting information disclosure in the iron and steel industry by dividing the environmental accounting disclosure into eight parts according to the "Administrative Measures for the Legal Disclosure of Enterprise Environmental Information", which came into force on February 8, 2022. It summarizes the current problems of environmental accounting information disclosure in the iron and steel industry and proposes countermeasures to solve them. It is found that the iron and steel industry currently has problems such as low initiative of environmental information disclosure, less disclosure of negative information, scattered disclosure information, and non-uniform disclosure carriers, etc. It is recommended to accelerate the construction of environmental accounting disclosure system and regulations, improve and standardize the environmental accounting information disclosure system, strengthen the construction of third-party audit, improve the awareness of environmental information disclosure of enterprises, standardize the environmental accounting information disclosure from both national and enterprise levels content, and accelerate the training of environmental accounting composite accounting talents from universities, enterprises, and government.

**Keywords:** Double carbon, environmental accounting, information disclosure

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## Introduction

As the global climate problem becomes increasingly serious, General Secretary Xi Jinping proposed in his speech at the general debate of the 75th session of the United Nations General Assembly in September 2020 that "China will increase its autonomous national contribution, adopt more vigorous policies and measures, strive to peak CO<sub>2</sub> emissions by 2030, and strive to achieve carbon neutrality by 2060". To achieve this goal, in 2021, China has successively issued guiding policies such as "The 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the 2035 Long-term Goal Outline", "Guiding Opinions on Accelerating the Establishment and Improvement of a Green, Low-Carbon, and Circular Development Economic System". As an important supporting industry for China's economic development and a key industry for carbon emission, improving the disclosure of its environmental accounting information is of great significance for environmental governance. After decades of development and progress, China's steel industry is

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already at the international advanced level in terms of energy consumption and carbon emissions per ton of steel, with crude steel production accounting for more than half of global crude steel production<sup>[1]</sup>, while the huge crude steel production has caused the total carbon emissions of the whole industry to remain large. What are the current environmental management measures and effectiveness of the iron and steel industry? What kind of problems exists in environmental accounting information disclosure? How to improve the level of environmental information disclosure of enterprises, promote the green and sustainable development of enterprises, and realize the unification of economic benefits, social benefits, and ecological benefits has become a research topic in the field of environmental accounting at this stage.

## Literature Review

The research on environmental accounting information disclosure in western countries first started in the 1950s. Along with the rapid economic development of western developed countries, the damage to the environment and the waste of natural resources became more and more serious, and the number of environment-specific regulations and systems also increased. Environmental accounting information disclosure, as an effective regulatory tool in the economic development of enterprises, aroused heated discussions in western academic circles and opened the door to environmental accounting research. Rob Gray and Dave Owen analyzed the lack of financial accounting theory from the viewpoint of fiduciary responsibility, described the social responsibility that companies should take, and discussed the basic theory of environmental reporting<sup>[2]</sup>. Subsequently, Rob Gray indicated that the specification of the content and channels of environmental accounting disclosures is crucial when planning for financial systems and control systems<sup>[3]</sup>. Wang, Wang, Sun et al. found that mandatory environmental information disclosure, such as the disclosure of air pollutant information, can significantly improve the happiness of citizens. Therefore, in developing countries, mandatory environmental information disclosure is worth advocating<sup>[4]</sup>. The empirical research of Abdullah, Hamzah, Ali, et al. showed that the environmental information disclosed by enterprises mainly includes business location, environmental compliance, environmental performance, environmental budget, and environmental governance philosophy<sup>[5]</sup>. Tzouvanas, Kizys, Chatziantoniou et al. summarized the environmental information disclosure content of European manufacturing enterprises, and concluded that the main environmental information disclosure contents of such enterprises are resource consumption, pollutant discharge, resource recycling, environmental fines and the environmental policy followed<sup>[6]</sup>. Balluchi, Lazzini, Torelli believed that quantitative information on material flow is an important content to determine the credibility of environmental reports<sup>[7]</sup>. China's environmental accounting information disclosure research started later than the western developed countries. In the 1990s, with China's rapid economic development, environmental pollution problems became more and more prominent, and the state introduced more and more environmental-specific laws and regulations, which also aroused domestic scholars' concern about the environment. In 1992, J. P. Ge first introduced the concept of environmental accounting in China<sup>[8]</sup>, and since the introduction of environmental accounting disclosure, Meng Fanli pointed out that the financial situation of enterprises is affected by environmental issues, which can lead to changes in the operating results situation, so any changes in operating results triggered by the environment or environmental regulations that cause enterprises to perform environmental enforcement events should be recorded in environmental accounting disclosure<sup>[9]</sup>. According to Wang Jinling, Zhang Zhongyao, the environmental information disclosure of Chinese enterprises is not perfect at present. The disclosure should not only contain qualitative information (e.g., environmental policies, environmental risks, etc.), but also quantitative information (e.g., pollution emissions, environmental inputs, environmental benefits, etc.), and only in this way can the fulfillment of a company's environmental responsibility be presented more realistically and comprehensively<sup>[10]</sup>. Zhang Benyue believed that the key issue of China's environmental governance is the internalization of the external cost of environmental pollution, They analyze the current construction of ecological compensation in China from both legislative and institutional aspects, respectively, and analyze the problems and causes of the implementation of the ecological compensation system and environmental accounting in China, suggesting that the relevant problems should be solved from three aspects: making conceptual and theoretical preparations, actively establishing a sound ecological compensation system, and building a framework for environmental financial accounting and environmental management accounting system<sup>[11]</sup>. Leng Yanyan studied the environmental accounting disclosures of 34 listed steel companies for the three-year period 2016-2018 and found that more than 50% of the companies disclosed their investment in environmental protection without mentioning the penalties imposed by the regulation<sup>[12]</sup>. Huang Mingmin believed that for listed companies in China's steel industry, usually only good news about the financial information of the natural environment will be released, and negative news about the company will not be released, for example, companies only release their active participation in energy saving and emission reduction and achievements in the natural environment level, but do not mention whether the pollution situation caused by emissions has been effectively improved<sup>[13]</sup>. Xu Xianghong

believes that enterprises should actively implement environmental management accounting, create conditions for enterprises to implement environmental management accounting, and further strengthen the additional information disclosure of environmental management accounting<sup>[14]</sup> .

From the point of view of development time and development process, developed countries, with their advanced environmental awareness, and accurate judgment of the future form of enterprise development, make their research on environmental accounting information disclosure earlier than other countries and have established a relatively complete disclosure system. Their research also penetrates into all walks of life and discusses and analyzes from different perspectives, with a solid theoretical foundation. Chinese research started late, and most of the research on environmental accounting information disclosure stays in heavy pollution industries, such as steel, coal, and chemical industries. In order to make up for the above deficiencies, this thesis aims to map out the environmental accounting information disclosure problems in the whole steel industry in a point-by-point manner through literature research and data analysis based on specific enterprises and to provide new directions to promote the development of environmental accounting information disclosure in the industry in the future.

**The current situation of environmental accounting information disclosure in China's iron and steel industry**

The production process of the iron and steel industry is complex and cumbersome, and the steelmaking process generates a large amount of waste gas, waste water and slag. Its production is highly dependent on natural resources, especially non-renewable resources such as coal, and is characterized by heavy pollution and high energy consumption. The total energy consumption of steel accounts for 15% of the total energy consumption of all industries in China, but the comprehensive consumption of tons of iron is more than 15% higher than the world advanced level. Figure 1 shows the graph of steel production in China from 2017-2021.

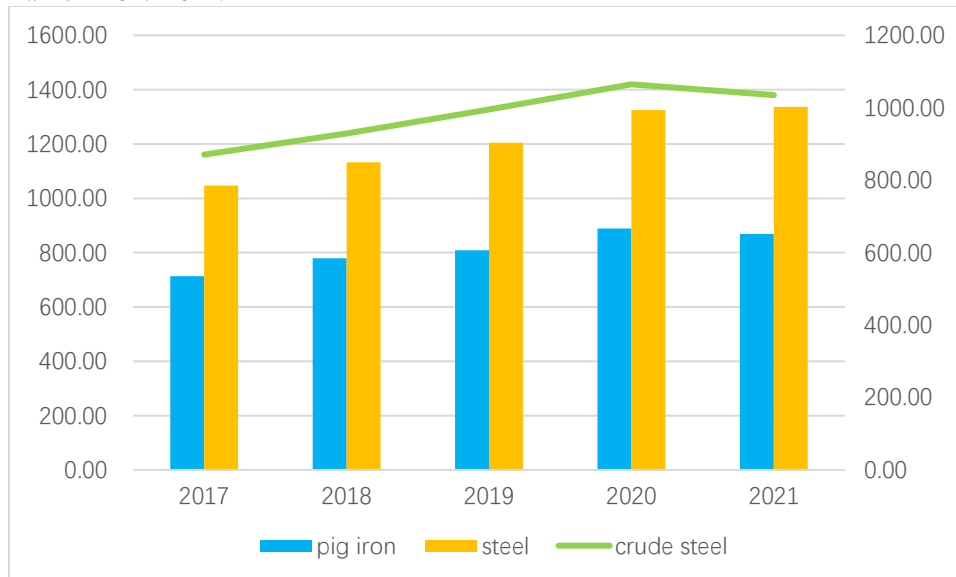


Figure 1: steel production (in million tons) in China from 2017-2021.

\* Data Sources: Office for National Statistics

As seen in Figure 1, China, the world's top steel producer, has a huge steel output, with pig iron and steel production maintaining a steady rise, but annual crude steel production declines for the first time in five years in 2021, due to China's increased efforts to control carbon emissions from the iron and steel industry. Therefore, in the face of the year-on-year increase in steel production, companies in the iron and steel industry must focus on their own environmental protection and follow a sustainable development path.

In this paper, 35 listed steel companies are selected as samples to analyze the current status of environmental accounting information disclosure in the iron and steel industry through corporate annual reports, social responsibility reports, and environmental reports<sup>[15]</sup> .

**1. Motivation for environmental accounting disclosure in the iron and steel industry**

Since the iron and steel industry was classified as a heavily polluting industry in 2008, the community has been paying more attention to the environmental behavior of the iron and steel industry, and at the same time, the environmental requirements for steel companies have been further increased. The motivations of the iron and steel industry to disclose environmental accounting information are divided into external motivations and internal motivations.

**(1) External Motivation**

Environmental issues have received widespread attention in recent years. With the official promulgation of the “Environmental Protection Law of the People's Republic of China” in 2015, it means that the Chinese government has been given clearer instructions on various regulatory systems for the management and supervision of environmental protection, and the requirements for the disclosure of environmental accounting information of enterprises are gradually being raised. The iron and steel industry, as a highly polluting and high-consumption industry, has received relatively more attention from the government. Improving the disclosure of its related environmental accounting information is of great significance to environmental governance. On December 11, 2021, the Chinese Ministry of Ecology and Environment issued the latest "Management Measures for the Legal Disclosure of Enterprise Environmental Information", which clearly stipulates various requirements such as the information that should be included in the environmental accounting information disclosure conducted by enterprises, as shown in the table 1.

**Table 1 Content Requirements for Environmental Accounting Information Disclosure**

number	Disclosure Content	Specific Requirements
1	Basic information of the enterprise	Basic information on enterprise production and ecological environment protection
2	Enterprise Environmental Management Information	Information on ecological environment administrative licensing, environmental protection tax, environmental pollution liability insurance, environmental protection credit evaluation, etc.
3	Pollutant generation, treatment and discharge information	Information on pollution prevention and control facilities, pollutant discharge, toxic and hazardous substance discharge, generation, storage, flow, utilization, disposal, and self-monitoring of industrial solid waste and hazardous waste
4	carbon emission information	Information on emissions, discharge facilities, etc.
5	Ecological environment emergency information	Information on emergency plans for environmental emergencies, emergency response to heavily polluted weather, etc.
6	Information on ecological and environmental violations	
7	Lawful disclosure of temporary environmental information this year	

\* Data Sources: Organized according to "Management Measures for the Legal Disclosure of Enterprise Environmental Information"

From Table 1, we can see that the latest laws and regulations have increasingly clear and detailed requirements for environmental accounting information disclosure. As a listed company in the iron and steel industry, it must abide by relevant regulations and disclose as required.

**(2) Internal motivation**

As the public is more and more concerned about the environmental protection initiatives of enterprises, the society has a higher evaluation of enterprises with a strong sense of social responsibility and can take the initiative to assume social responsibility, which can establish a good corporate image, enhance the credibility of the enterprise and improve the brand value of the enterprise. In this context, some steel companies have realized the necessity and importance of environmental accounting information disclosure, and the willingness and quantity of environmental information disclosure has increased.

**2. Ways of disclosure of environmental accounting information in the iron and steel industry**

The methods of environmental accounting information disclosure in the iron and steel industry mainly include annual reports of listed companies, social responsibility reports, and environmental reports. It can be seen from Table 2 that 100% of the companies disclose environmental accounting information through the annual report. However, due to the large amount of information involved in the annual report, the environmental accounting information does not take up much space, so some companies will disclose the sustainable development report separately. To disclose more environmental accounting information, Baosteel Group, for example, has disclosed sustainable development reports for 13 consecutive years, and many companies call sustainable development reports social responsibility reports. It can be seen from the table that more than 38% of companies disclose environmental accounting information through social responsibility reports. Guo Nanke's research on China's automobile manufacturing industry shows that 16% of the automobile manufacturing industry discloses their environmental accounting information in social responsibility reports<sup>[16]</sup>. For environmental-related information, the analysis of Zeng Xiongwang et al. shows that about 30% of enterprises in the animal husbandry industry disclose information related to environmental accounting in their social responsibility reports<sup>[17]</sup>. In contrast, iron and steel enterprises disclose a relatively high proportion of their environmental accounting information in their social responsibility reports. However, there is only one enterprise that discloses environmental accounting information through environmental reports. In addition to these three disclosure methods, in order to attract investors, some companies will choose to disclose environmental information in the prospectus to attract potential investors. Companies choose different disclosure vehicles. Listed companies in China's iron and steel industry that do a good job in environmental accounting information disclosure will choose a variety of methods to disclose.

Disclosure method	Listed Company Annual Report		Social Responsibility Report		Environmental Report	
	Number of disclosures	Proportion	Number of disclosures	Proportion	Number of disclosures	Proportion
2017	35	100.00%	14	40.00%	0	0.00%
2018	35	100.00%	15	42.86%	0	0.00%
2019	35	100.00%	18	51.43%	1	2.86%
2020	35	100.00%	19	54.29%	1	2.86%

2021	35	100.00%	17	48.57%	1	2.86%
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**Table 2 Statistics on Environmental Accounting Information Disclosure Methods of Listed Companies in the Iron and Steel Industry from 2017 to 2021**

\*Data Source: According to the statistics of the annual reports, social responsibility reports and environmental reports of 35 iron and steel enterprises

### **3. Contents of environmental accounting information disclosure in the iron and steel industry**

Referring to the "Administrative Measures for the Legal Disclosure of Enterprise Environmental Information" issued on December 11, 2021, and officially implemented on February 8, 2022, this paper divides the content of environmental accounting disclosure into 8 parts, namely basic information of enterprises and information of environmental management of enterprises. , pollutant generation, treatment and emission information, carbon emission information, ecological environment emergency information, ecological and environmental violation information, temporary environmental information disclosure of this year, and other environmental information stipulated by laws and regulations, To better reflect the enterprise's environmental accounting information in monetary terms, seven items of environmental protection facilities, input costs, income from three wastes, sewage charges, greening fees, waste treatment fees, and environmental technology research and development fees are added to the other environmental information stipulated by laws and regulations in Part 8, please refer to Table 3 for details of the disclosure.

On the whole, the content of environmental accounting information disclosure of Chinese iron and steel enterprises has improved. The awareness of environmental protection in iron and steel enterprises has been continuously improved. The disclosure rate of production information and ecological environment protection information has reached 100%, and the disclosure rate of pollution prevention and control facilities and pollutant discharge information has reached more than 85%. However, the disclosure of carbon emissions is very little. Most of the content disclosed by steel companies is descriptive information, such as the company's ecological environment protection information and pollution prevention and control measures, but there is less disclosure of specific monetary and quantitative information, especially the income from the three wastes. Among the environmental accounting information disclosed by iron and steel enterprises, the content with a relatively high level of disclosure, such as the compliance with pollutant discharge standards, is the information that is required to be disclosed in the "Guidelines for Environmental Information Disclosure of Listed Companies" issued by the Ministry of Environmental Protection, which is passive disclosure. For content that is voluntarily chosen to be disclosed, the overall level of disclosure is low. At the same time, according to the theory of stakeholders and the theory of information asymmetry, for the information disclosed voluntarily by enterprises, enterprise managers tend to report good news rather than bad news when disclosing information. For example, the disclosure of environmental protection honors is more than the disclosure of environmental accidents and illegal events, and the disclosure of the consumption of corporate environmental resources is less.

**Table 3 Statistical analysis of environmental accounting information disclosure content of listed companies in the iron and steel industry from 2017 to 2021**

Year		2017		2018		2019		2020		2021	
disclosure content		Amount	Proportion	Amount	Proportion	Amount	Proportion	Amount	Proportion	Amount	Proportion
Basic information of the enterprise	Enterprise production information	35	100.00%	35	100.00%	35	100.00%	35	100.00%	35	100.00%
	Ecological and Environmental Protection Information	35	100.00%	35	100.00%	35	100.00%	35	100.00%	35	100.00%
Enterprise Environmental Management Information	Ecological environment administrative license	9	25.71%	12	34.29%	14	40.00%	15	42.86%	18	51.43%
	environmental protection tax	0	0.00%	10	28.57%	11	31.43%	15	42.86%	18	51.43%
	Environmental Pollution Liability Insurance	3	8.57%	6	17.14%	7	20.00%	8	22.86%	9	25.71%
	Environmental Credit Evaluation	3	8.57%	5	14.29%	6	17.14%	8	22.86%	10	28.57%
Pollutant generation, treatment and discharge information	Pollution Prevention Facilities	30	85.71%	31	88.57%	33	94.29%	34	97.14%	35	100.00%
	Emissions	32	91.43%	32	91.43%	32	91.43%	33	94.29%	35	100.00%
	Emission of Toxic and	25	71.43%	26	74.29%	26	74.29%	26	74.29%	26	74.29%

	Hazardous Substances										
	Industrial solid waste and hazardous waste generation, storage, flow, utilization, disposal, self-monitoring, etc.	28	80.00%	29	82.86%	29	82.86%	30	85.71%	34	97.14%
carbon emission information	emissions	3	8.57%	4	11.43%	5	14.29%	9	25.71%	10	28.57%
	discharge facility	2	5.71%	2	5.71%	3	8.57%	7	20.00%	9	25.71%
Ecological environment emergency information	Emergency plan for environmental emergencies	0	0.00%	2	5.71%	3	8.57%	3	8.57%	3	8.57%
	Emergency Response to Heavy Pollution Weather	8	22.86%	9	25.71%	12	34.29%	14	40.00%	15	42.86%
Information on ecological and environmental violations	Information on ecological and environmental violations	0	0.00%	1	2.86%	1	2.86%	1	2.86%	1	2.86%
Lawful disclosure of temporary environmental information this year	Lawful disclosure of temporary environmental information this year	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Other environmental information stipulated by laws and regulations	Investment cost of environmental protection facilities	30	85.71%	30	85.71%	32	91.43%	33	94.29%	33	94.29%
	Waste income	5	14.29%	3	5.71%	3	5.71%	4	11.43%	5	14.29%



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Sewage charges	19	54.29%	20	57.14%	21	60.00%	21	60.00%	21	60.00%
Greening fee	21	60.00%	23	65.71%	24	68.57%	24	68.57%	26	74.28%
waste disposal fee	22	62.86%	25	71.43%	25	71.43%	29	82.86%	31	88.57%
Environmental protection technology research and development expenses	13	37.17%	15	42.86%	17	48.57%	18	51.43%	24	68.57%

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\*Data Source: According to the statistics of the annual reports, social responsibility reports and environmental reports of 35 iron and steel enterprises

## **Problems of environmental accounting information disclosure in China's steel industry**

### ***1. Disclosure methods of environmental accounting information are not uniform***

Since China has not implemented a unified way of disclosing environmental accounting information, different steel enterprises have chosen different ways of disclosure, and environmental accounting information is scattered and difficult to collect. Most companies choose to disclose in the notes to financial statements, 50% of steel companies will have a separate module in their social responsibility reports, but most of their disclosures are textual, with less quantitative information, and some are disclosed in their annual reports, and these disclosures are also more scattered, and the information disclosed in the annual reports and sustainability reports sometimes produce duplication, which is not conducive to information. The information disclosed in the annual report and the sustainability report is sometimes duplicative and not conducive to comparison by users.

### ***2. Environmental accounting information disclosure content is not comprehensive***

On the one hand, steel enterprises tend to disclose some favorable environmental accounting information to attract relevant investors for the reason of maintaining their rights and interests. False information to disguise their shortcomings, will cause incomplete and untrue disclosure of relevant environmental accounting information, which is very easy to mislead information users to make wrong decisions. On the other hand, the disclosures are not very practical. Most of them are used to summarize the environmental achievements in the past year and some environmental protection participation matters in the past, but there is no clear description of the plans and goals for the new year, such information as environmental litigation, environmental awards, and penalties, which will have a significant impact on the future development of the company, is less disclosed.

### ***3. Lack of third-party auditing of environmental accounting information***

At the present stage, China only conducts audits for financial statements and lacks independent third-party audits for the environmental accounting information disclosed in social responsibility reports, resulting in the reliability of the disclosed information being questioned. This is due to the lack of accounting standards for environmental accounting in China, which makes it difficult for auditors to carry out auditing work. With the implementation of the "double carbon" goal, the authenticity and integrity of environmental accounting information are becoming more and more important, and it is also conducive to improving the quality of accounting information, therefore, the report of environmental accounting audit should be increased.

## **Measures and suggestions for promoting environmental accounting information disclosure in China's steel industry**

### ***1. Improve environment-related laws and regulations and improve environmental accounting information disclosure system***

The above mentioned "Management Measures for the Legal Disclosure of Enterprise Environmental Information" is already the most detailed disclosure basis for the implementation of environmental accounting information disclosure by enterprises, but from the content of environmental information required to be disclosed by enterprises, it is still mainly qualitative information, with less quantitative information required, which cannot be measured and evaluated in monetary terms, and the document does not require small and medium-sized steel enterprises to disclose environmental accounting information. In order to ensure systematic and comprehensive disclosure of environmental accounting information of heavy polluting enterprises such as iron and steel enterprises, it is suggested to include relevant environmental accounting concepts in the existing accounting standards, set unified measurement standards for environmental assets, liabilities, and revenues, and learn from European and American countries to include environmental costs, environmental liabilities and environmental revenues, so as to guide the iron and steel industry to carry out standardized environmental accounting information disclosure work, and according to the iron and steel enterprises In order to standardize the disclosure behavior of enterprises and improve the disclosure level of the industry, and thus improve the standard of environmental accounting information disclosure in the iron and steel industry, the disclosure mode should be divided according to the different types of iron and steel enterprises<sup>[18]</sup> .

### ***2. Improve the awareness of environmental information disclosure and standardize the content of environmental accounting information disclosure***

The enhancement of public awareness of environmental protection has put forward higher requirements on the quality of environmental accounting information publicly disclosed by enterprises. To improve the level of environmental accounting information disclosure of enterprises within the iron and steel industry, the most urgent thing now is for enterprises to deeply recognize the importance of environmental protection from within and pay attention to environmental protection behavior. Only when the enterprises internally recognize the importance of environmental protection, they will develop an internal environmental accounting information disclosure system and take the initiative to disclose the high-quality environmental information encountered by the enterprises in their operation, so that the environmental accounting information disclosure will no longer be a formality<sup>[18]</sup> . From the previous analysis, firstly, in the environmental accounting information disclosure

in China's iron and steel industry, the disclosure content is scattered, and there are big differences between each enterprise, and the horizontal comparability is low; secondly, there are different modes and carriers of disclosure, and it is more difficult to find and identify, therefore, the content disclosed on the financial report can be standardized from within the enterprise, and the relevant data can be disclosed reasonably to improve the level of enterprise disclosure. For the occurrence and treatment of events such as pollutant emissions disclosed by steel enterprises at this stage are based on historical information, enterprises should also look at pollution source management to achieve the full coverage of planning beforehand, preventing inputs during the process and pollution remediation afterward to standardize the content of internal environmental accounting disclosure.

### ***3. Strengthen the supervision of third-party audits and improve the authenticity of environmental accounting reports***

The environmental accounting reports identified and audited by third-party institutions are more reliable, and government departments should improve their supervision of environmental accounting information in the seriously polluted iron and steel industry, suggesting that the supervision by government departments is the main way and third-party auditing plays a supplementary role. The third-party auditing department should comprehensively collect relevant data and information through the investigation of the environmental behaviors of listed companies in the iron and steel industry, and make objective evaluations and supervision. The phenomenon of enterprises hiding negative environmental information is eliminated, the awareness of environmental accounting information among other stakeholders such as investors is promoted, and the authenticity of environmental accounting reports is improved.

### ***4. Accelerate the cultivation of environmental accounting compound accounting talents***

Due to the late development of environmental accounting in China, many colleges and universities have not yet offered environmental accounting courses. Therefore, it is necessary to speed up the cultivation of environmental accounting compound accounting talents from the three aspects of colleges, enterprises, and government. Firstly, colleges and universities, as the cradle for cultivating professional and technical personnel, should set up environmental accounting and environmental auditing majors in various financial and economic colleges and universities of environmental engineering, or add environmental and accounting majors to existing accounting, auditing majors, and environmental engineering majors. , audit-related professional courses, such as environmental accounting, environmental economics, environmental auditing, etc., strengthen school-enterprise cooperation, introduce enterprise business backbones to school teaching, jointly discuss professional talent training programs, and formulate practical courses. Secondly, improve the environmental accounting talent training mechanism within the enterprise, strictly select talents who understand both environmental engineering and finance, and provide environmental engineering training for corporate finance department personnel, so as to better disclose environmental accounting information. Thirdly, the government should introduce policies to incorporate environmental accounting knowledge into the existing accounting qualification examinations and continuing education for accountants, and consciously guide and strengthen professional and technical personnel's environment-related business knowledge and skills. And launched various levels of project research, formulated research guidelines related to environmental accounting and environmental auditing, and encouraged experts and scholars, professional skill masters of enterprises, university teachers, and relevant business departments to carry out relevant research practices.

## **Conclusion**

The "Double Carbon" target is rigid for China to achieve healthy development of the ecological environment. It should not only pay attention to the sustainable development of the economy but also pay attention to the implementation of the concept of environmental protection. Environmental accounting information disclosure, as a product of the concept of economic development in the new era, can effectively promote the simultaneous development of the economy and ecology. The iron and steel industry is a key industry for environmental governance and carbon emissions. Carbon emissions account for 14% of the country's total. The implementation of carbon peaking and carbon reduction actions in the iron and steel industry is a strong support for China to achieve its dual carbon goals and achieve its own high-quality development. internal needs.

This paper innovatively divides the content of corporate environmental accounting information disclosure into 8 parts according to the latest version of the "Administrative Measures for the Legal Disclosure of Enterprise Environmental Information" that will be implemented in 2022 in China, and adds the content of quantitative disclosure to 35 iron and steel companies. analysis of annual reports, social responsibility reports and environmental reports, It is found that the environmental accounting information disclosure of the iron and steel industry currently has problems such as inconsistent environmental accounting disclosure methods, incomplete disclosure content, and lack of third-party audits, which are consistent with the problems found by Huang Minmin and Yang wanying. According to the latest management measures,

companies are required to disclose environmental protection tax and carbon emissions. However, since China only started to levy environmental protection tax in 2018 and required companies to disclose carbon emissions only this year, this part of information disclosure by steel companies less. In response to these problems, this paper optimizes the disclosure of environmental accounting information in the iron and steel industry from the two levels of the country and the enterprise. On the one hand, it is necessary to speed up the construction of relevant special laws and regulations at the national level, improve the disclosure system, and strengthen third-party auditing; on the other hand, at the enterprise level, it is necessary to improve the awareness of environmental accounting information of internal managers, strengthen internal management of disclosure work, and standardize internal disclosure of enterprises. The scope of content is to deal with carbon emission reduction and transform the challenge into its high-quality development momentum and to accelerate the training of environmental accounting composite accounting talents from universities, enterprises and government.

Although this paper collects a large amount of enterprise and industry data, the research of this paper still has certain limitations. First, 35 iron and steel enterprises were selected as samples, which cannot represent all iron and steel enterprises.

Second, the collected environmental accounting information comes from the reports publicly released by various enterprises on the company's website, and the data may not be comprehensive. Third, the author's knowledge is limited, and the analysis and countermeasures for the disclosure of environmental accounting information in the iron and steel industry are relatively rough. There is still space for further optimization.

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