

Research on Environmental Information Disclosure Mechanism and Development Status of Automobile Enterprises in China

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Abstract. Firstly analyzed the progress of environmental information disclosure at home and abroad, and elaborated on the shortcomings of environmental information disclosure in China. Secondly, based on foreign information disclosure experience and the actual development of China's development of the automobile industry, an environmental information disclosure system for the Chinese automobile industry based on the participation of multiple entities is proposed. Finally, by setting indicators for the whole life cycle, the environmental information disclosure of automobile companies is analyzed from different angles.

1 Introduction

Information disclosure first originated in the United Kingdom. Since 1990, countries such as the United States, the United Kingdom, Australia, and Japan have begun to attach importance to the disclosure of environmental information by enterprises. At present, information disclosure has become a major means of global public management. The United States has the most complete system of information disclosure regulations. At the same time, its own practice has proved that the government can also use ethical agreements in environmental supervision. Compared with administrative orders, the environmental effects of ethical agreements are not only fast but also low-cost. Environmental information disclosure has gradually become a mandatory requirement in the financial sector. In addition to pollution issues, developed countries will gradually establish climate and other green information disclosure systems [1]. For example, the European Union issued the "Sustainable Development Financing Action Plan", proposing to strengthen the disclosure of sustainable information and the formulation of accounting standards [2]. The British Green Finance Strategy Report pointed out that all listed companies and large enterprises are expected to make disclosures in accordance with the climate-related financial information disclosure working group TCFD recommendations by 2022, and establish a joint working group across the UK regulators to explore the compulsory reporting and suitability. Australian Securities Regulatory Commission The meeting also proposed to disclose climate information in the company's annual report [3].

The rudimentary form of China's environmental information disclosure laws and regulations supervision system has basically taken shape. From the original independent formulation by the Ministry of

Environmental Protection or the securities regulatory authority, to the later inter-departmental cooperation and joint formulation of related systems, environmental information disclosure has gradually transitioned from voluntary to mandatory[4]. For example, the consultation document issued by the Hong Kong Stock Exchange on the review of the Environmental, Social and Governance Reporting Guidelines and the relevant provisions of the Listing Rules specifies detailed disclosure requirements for environmental and climate information disclosure. However, in general, there are still many shortcomings in China's environmental and climate information disclosure, such as inconsistent forms of disclosure, inconsistent disclosure standards, incomplete disclosure scope, and lack of effective supervision. According to the "Evaluation Report on Environmental Responsibility Information Disclosure of Listed Companies in China (2019) Year" shows that more than 70% of listed companies still have not released reports on environmental information disclosure. Among them, the information disclosure of the manufacturing industry has just started.

The Ministry of Industry and Information Technology has promoted the disclosure of green and low-carbon information by automobile manufacturers and has made preliminary progress. The "Industrial Enterprise Green Development Report Publicity Platform" was launched, which will support the smooth disclosure of enterprise green development information channels, show the excellent achievements of enterprise green development, and provide a convenient channel for the government and the public to obtain enterprise green development information.

2 Construction of environmental information disclosure system

Establishing and improving the environmental

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information disclosure mechanism of the automobile manufacturing industry requires the joint efforts of government departments, enterprises, industry institutions, and financial institutions. First, it is necessary to strengthen the top-level design, build an information disclosure standard system, and support incentive and restrictive measures; second, green finance adopts the information disclosed by enterprises; finally, industry institutions strengthen organizational guidance and create a positive public opinion environment to awaken society's information on the corporate environment Attention and supervision.

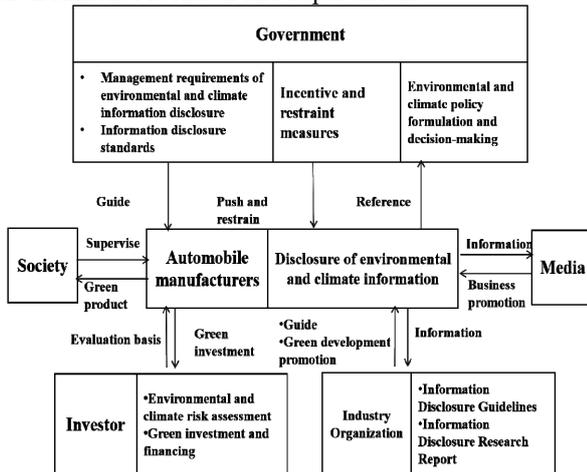


Figure 1. Environmental information disclosure system.

(1) Government departments: Formulate requirements for the management of environmental information disclosure in the automotive industry, and clarify the objects and scope of disclosure. Establish environmental information disclosure standards, clarify the content and quality of disclosure, etc. At the same time, information disclosure incentives and restrictions have been introduced to encourage companies to disclose environmental information and impose penalties on companies that fail to disclose as required. The environmental information disclosed by enterprises is also the reference basis for the government to formulate policies and decision-making.

(2) Investors: When making green investments, enterprises should analyze the environmental information disclosed by enterprises, and give priority to enterprises with higher information transparency. Develop better green financial products.

(3) Industry institutions: Give full play to the role of third-party guidance and services, formulate information disclosure guidelines, guide enterprises to conduct information disclosure in a standardized manner, and provide convenient channels for information disclosure. Research on corporate information disclosure research reports to provide a reference for the government and companies to understand the level of environmental information disclosure.

(4) Auto companies: Establish a normalized corporate environmental information disclosure mechanism, regularly publish environmental information disclosure reports, and disclose corporate environmental

impact, climate impact, and green development effectiveness.

(5) Media: Strengthen the publicity report on the content and disclosure quality of corporate environmental information disclosure, and create a green development image for companies with a high level of information disclosure.

(6) The public: Strengthen the supervision of corporate environmental information disclosure, and give priority to purchasing products produced by companies with high transparency in information disclosure, and implement green product consumption.

3 Analysis of the status quo of environmental information disclosure of Automobile Enterprises

The automobile industry will carry out the pilot work of green and low-carbon information disclosure since 2019 in China. After two years of efforts, the awareness of information disclosure of some automobile enterprises has been significantly improved. The level of environmental information disclosure of the automobile industry in 2020 will increase by about 52% compared with that in 2019.

3.1 Analysis of disclosure form

According to the survey of the top 49 automobile manufacturers in 2019, the current way of environmental information disclosure is mainly through the official website of the enterprise, such as setting up the environmental information disclosure section, but the information content is generally only related to products, and the information content is not comprehensive. The second is to publish the social responsibility report. The environmental impact is disclosed by setting corresponding chapters, but the content is limited and needs to be further enriched. It is worth mentioning that some enterprises have disclosed their environmental impact, green and low-carbon actions and achievements by issuing special reports such as green development reports or environmental white papers.

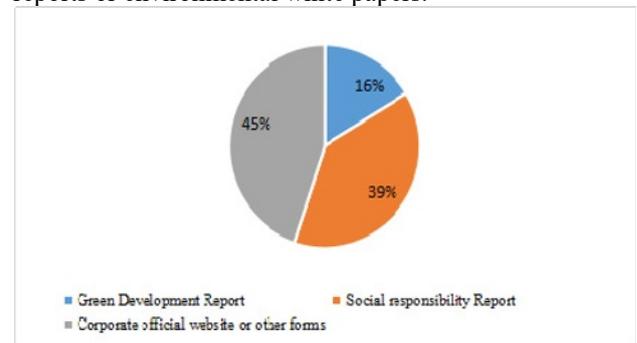


Figure 2. Ways of Environmental Information Disclosure.

3.2. Analysis of disclosure form

This paper will analyze the information disclosure situation of the company's basic information and the environmental impact of the whole life cycle[5].

(1) Basic information: including basic information related to the environment, development strategies, management policies, etc.

(2) Application of new concept technology: new ideas, new directions, etc. to reduce the environmental impact of automobiles.

(3) Optimize lifecycle design: work to extend the service life of the car.

(4) Reduce environmental impact of materials: choose low-carbon, green, environmentally friendly, non-toxic and harmless or low-toxic and low-harm raw materials.

(5) Reduce material usage: reduce material usage by orders of magnitude, etc. Such as lightweight technology.

(6) Optimize production process: improve production efficiency and energy saving and emission reduction in production.

(7) Optimize distribution system: including green packaging, green storage, green transportation, etc.

(8) Optimize the process of use: eliminate or reduce the impact of product use on the environment and human body.

(9) Optimize recycling processing: green producer certification, recycling of products and components.

Table 1. Weight of Information Disclosure Index.

Index category	Weights
Basic information	17%
Application of new concept technology	3%
Optimize lifecycle design	3%
Reduce environmental impact of materials	8%
Reduce material usage	3%
Optimize production process	31%
Optimize distribution system	13%
Optimize the process of use	16%
Optimize recycling processing	6%

Figure 3 shows the information disclosure scores of 49 companies, of which only 18% have scores above 60, and about 63% have scores less than 20. It can be seen that a small number of automobile manufacturers in China have relatively high information transparency, but there is still a lot of room for improvement among which, and the industry's environmental information transparency is highly polarized.

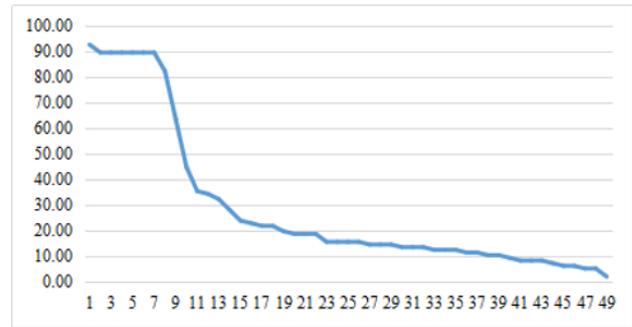


Figure 3. Scores of information disclosure of 49 Auto Enterprises.

In terms of Basic information, Reduce material usage, Optimize production process, Optimize the process of use, whoes information transparency is high. It shows that companies still focus on their own development, the use of materials and products, such as life cycle design scores are low, making the ability to deal with climate risks still poor. To achieve green development, we need to consider the whole process and make up for shortcomings.

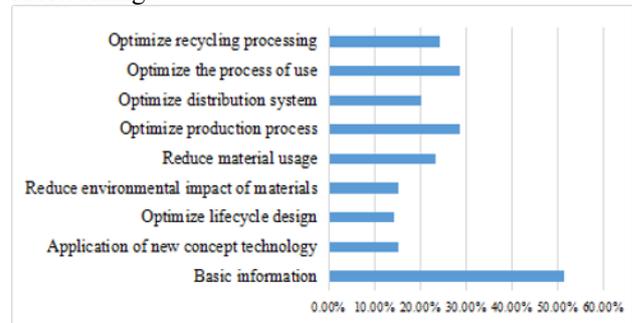


Figure 4. Index score rate.

3.3 Analysis of Disclosure Situation of Automobile Manufacturers

The correlation coefficient between the output of 49 companies in 2019 and the environmental information disclosure scores of automobile manufacturers is 36.51%, indicating that the current large-scale production companies generally do not pay much attention to information disclosure. This part of the companies is environmental information. The main implementer of the disclosure. Due to the tightened supervision of information disclosure in the securities market, the level of information disclosure of listed companies has been significantly improved. Compared with unlisted auto manufacturers, information transparency is about 45% higher.

According to the scores of environmental protection information disclosure level of 49 enterprises for two consecutive years, 77% of the enterprises' information disclosure level has gradually improved; while 23% of the enterprises' information disclosure content has remained unchanged for a long time, and the data has not been updated, and the score has declined.

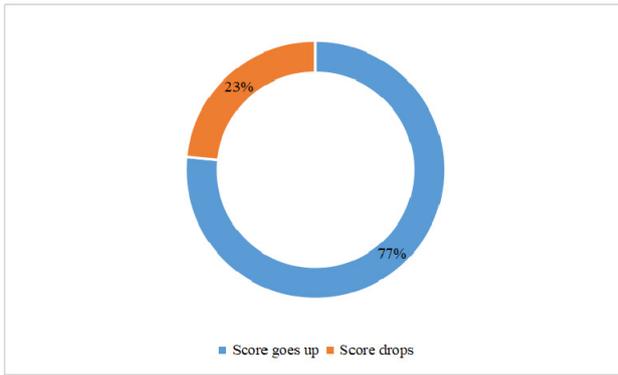


Figure 5. Changes in scores of environmental information disclosure Enterprises.

Based on the analysis of the average score rate of all subsidiaries of China's major automobile groups, FAW have relatively high environmental information transparency, followed by GAC. DMC and BAIC have similar scores, and SAIC has the lowest scores.

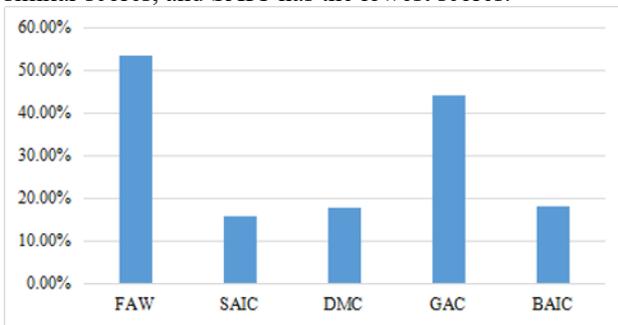


Figure 6. Average score rate of major auto groups.

4 Conclusions

Environmental information disclosure is of great significance to the government, automobile manufacturers, parts enterprises, consumers and investors. Environmental information disclosure will be an important driving force for the acceleration of the green, low-carbon, and circular development of China's auto industry. However, the current environmental information disclosure mechanism of automobile industry has just started. In order to achieve the carbon peak and carbon neutral goals, environmental information disclosure mechanism needs to be established quickly in China.

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