

ESG Information Disclosure in China's New Energy Vehicle Industry: a case study of BYD

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Abstract. This study examines the importance of corporate sustainable development and its ESG (environmental, social, and governance) disclosure in the context of global climate change and resource scarcity. Taking BYD, a leading company in China's new energy vehicle industry, as an example, this study analyzes the current status of its ESG disclosure. Although BYD has regularly published social responsibility reports since 2010 and has performed well in global ESG ratings, China's ESG evaluation system is still relatively simple. It needs the support of comprehensive laws and regulations. This study examines BYD's disclosure of environmental information, social responsibility, and corporate governance through case studies and points out the problems of selective reporting content and insufficient data support. Based on this, it is suggested that ESG legislation be strengthened, uniform disclosure standards be developed, China's national conditions and dual-carbon targets be considered, and a third-party assessment mechanism be introduced to promote the high-quality development of new energy automotive enterprises and global green transformation.

1 Introduction

As the world economy grows slowly and global threats like climate change and shortage of natural resources rise, actively realizing sustainable development goals becomes a consensus around the world, and the quality of economic growth gains more attention [1]. In the context of "carbon peaking and carbon neutrality goals", ESG theory, tallying with "new concept for development", provides an evaluation standard for enterprises from perspectives of environment, social and governance [2]. ESG theory stresses that production development is no longer the main theme of the global economy and requires enterprises to focus on comprehensive development and undertake more obligations on non-fiscal achievement effect to realize long-term objectives of sustainable development [3].

China's new energy vehicles industry takes a leading role around the world [4]. Information disclosure done by BYD, a leading new energy vehicles enterprise in China, has a certain universality and market significance in the world. Since 2010, BYD has been disclosing its social responsibility reports and promoting its vision of green development. All of these factors are in line with the trend of green development around the world. However, the ESG evaluation standard is relatively simple in China and lacks the support of laws and

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regulations. Therefore, data issued by different enterprises is provided based on different reference standards. The study will take BYD as an example to study information disclosure done by enterprises from three perspectives of ESG and raise suggestions to improve ESG from different aspects to provide practice instruction and development suggestions for new energy vehicle enterprises in China.

2 Literature Review

The concept of ESG was first proposed by the United Nations Global Compact on “Who Cares Wins” in 2004 [5]. ESG topics have attracted much attention in recent years. ESG advocates developing evaluation from perspectives of environment, social, and government, especially ESG information disclosure, the relationship between ESG performance and enterprise value, and the relationship between ESG performance and enterprise competitiveness [6, 7]. Scholars like Liu et al. deem that ESG information disclosure provides clear social responsibility distinction and orientation for enterprises, which inherits and develops from traditional social responsibility [8]. Both aim to help enterprises develop sustainably. ESG becomes the core framework of sustainable development of enterprises and is expected to be the main system to evaluate the social responsibility of enterprises. China has issued a series of policy papers. However, the current ESG information disclosure standards are still not satisfied with the actual situation in China, which has become the main barrier restricting sustainable development for the economy and enterprises in China [9].

Empirical research done by Yu and Wu finds that good ESG performance enhances the value of an enterprise [10]. As the scale of the company expands, established time increases, leverage reduces, and ownership concentration rises, the value of the enterprise will increase observably. An increase in demand for internal development and innovation input indicates an improvement in the ESG performance of enterprises. Meanwhile, internal innovation input and attention from external analysts create a synergistic effect for enterprises to strengthen their value. Gu et al. studied listed companies issuing A-shares at the Shanghai Stock Exchange and Shenzhen Stock Exchange on stability tests, finding that good ESG performance enhances enterprise competitiveness [11]. Compared with state-owned enterprises, non-state enterprises have a disadvantage in gaining resources. Therefore, they pay more attention to ESG performance. They improve the quality of information disclosure, reduce asymmetric information, enhance information transparency, and increase R&D activities. All of these help them strengthen their competitiveness. Regression results of heterogeneity analysis show that ESG performance has a long-term influence on enterprise competitiveness because good ESG performance will help enterprises attract diversified financing channels, which will enhance enterprise competitiveness.

3 Case analysis

3.1 Case description

BYD, founded in 1995, upholds the development principle of “focusing on technique and innovation”, engages in industries of electronics, vehicles, new energy, and rail traffic, and has become an international enterprise. Supported by the strong abilities of R&D and innovation, BYD has mastered the core techniques for new energy vehicles such as the blade battery, DM-i hybrid power, e platform 3.0, and CTB (integration of battery and car body). At present, BYD’s new energy vehicles contain two series of products, i.e., passenger vehicles and commercial vehicles. For commercial vehicles, BYD has rich product lines for electric buses, electric trucks, and electric forklifts. In 2012, BYD released the solution of

“electrified urban public transportation, which later became a national strategy in China. Up to August 2024, BYD’s new energy vehicles have been sold to 88 countries and regions and more than 400 cities. Meanwhile, BYD has built manufacturing bases for passenger vehicles in Brazil, Hungary, and Uzbekistan. All of this speeds up the globalization of its industry chain and drives the development of new energy industries around the world.

On sustainable development, BYD adds environmental protection and social responsibility to the contents to evaluate enterprise development. The company exercises strict control over wastewater discharge, exhaust emission, and waste discharge and uses a mass of renewable energy sources to minimize damage to the environment. BYD has issued a social responsibility report containing sustainable development since 2010. In the social responsibility report issued by BYD in 2010, BYD has taken the GRI Sustainability Reporting Guidelines and ten principles proposed by “The United Nations Global Compact” for reference. In September 2018, MSCI developed an ESG evaluation for BYD for the first time, and the grade BYD got was A, ranking in the front row of the industry, and it remained the same for the next three consecutive years. In November 2022, MSCI upgraded the grade of BYD to AA, making BYD list in the top 19% of 44 automobile enterprises. The social responsibility report issued by BYD in 2023 contained data support for key performance indicators.

3.2 ESG information disclosed by BYD

3.2.1 Environmental information disclosure

The environment is an important indicator for ESG information disclosure and creates a positive influence on enterprise value. Environmental information disclosed by enterprises includes energy utilization ratio, water conservation indicator, and energy conservation indicator, which will directly affect enterprise cost and will indirectly affect enterprise value. The environmental information disclosure on social responsibility report issued by BYD in 2023 focused on energy management, water resource management, and three waste management.

On the evaluation of greenhouse gas emissions in 2023, BYD strictly followed laws and regulations related to environmental conservation, such as the Environmental Conservation Law of P.R. China and the Atmospheric Pollution Prevention Law of P.R. China. As a proponent of environmental conservation, BYD thoroughly examines the data of greenhouse gas emissions at regular intervals and employs a third party to inspect and calculate carbon emissions based on the Inspection Guideline for Greenhouse Gas Emissions of Organizations issued by Shenzhen. The result as shown in Table 1. The computational formula is $E=QXEF$ (E: carbon dioxide emissions; Q: purchased electric quantity/natural gas consumption/gasoline consumption/diesel consumption; EF: emission coefficient).

Table 1. The evaluation of greenhouse gas emissions in 2023.

Category	Measuring Unit	2023
Greenhouse Gas Emissions of Scope 1 (Carbon Dioxide Equivalence)	Tonne	931,916
Greenhouse Gas Emissions of Scope 2 (Carbon Dioxide Equivalence)	Tonne	11,409,539
Total Amount of Greenhouse Gas Emission (Carbon Dioxide Equivalence)	Tonne	12,341,455
Density of Greenhouse Gas Emission	Tonne/Turnover of Ten Thousand Yuan	0.20490

Three waste management: BYD increases investment in environmental conservation such that BYD improves technologies and assessment criteria to reduce waste. Such investment exceeded 1.2 billion Yuan in 2023. The rate of reaching the standard of pollutants such as wastewater, exhaust gas, and noise discharged by BYD was 100% during the period of the report. BYD adopts a classified process to treat solid wastes, and it entrusts qualified enterprises to treat different types of waste. Changing packages to reuse packing materials is also one of the effective ways adopted by BYD. BYD supervises waste water and exhaust gas management strictly, that different production wastewater is collected separately, then treated based on different solutions and enters into different wastewater processing systems in the industrial park. All sewage is discharged to reach standard. Different facilities are adopted to handle different exhaust gas based on different manufacturing techniques and main components of the exhaust gas to ensure the collection and treatment of exhaust gas effectively. About noise management, the BYD social responsibility report of 2023 briefly describes that “To reach harmonious coexistence with adjacent communities, BYD has developed technical transformation to optimize ancillary facilities, environmental protective facilities, air compression stations, and cooling towers around the factory to reduce noise; meanwhile, employs measures like sound insulation, noise reduction, sound absorption, and shock absorption to reduce the noise made by production equipment”. No data or photo was shown to support its description.

3.2.2 Social responsibility information disclosure

In the context of economic globalization, disclosure of information about social responsibility has become an important way to enhance the competitiveness of listed companies around the world. Investors have high requirements for information because of the complexity of the stakeholders. Enterprises become more active in disclosing their social responsibility because doing so could well enhance their reputation and image.

Public welfare and beneficence: BYD has established 15 volunteer service stations in China. In 2023, volunteers from BYD continue to develop various public benefit activities like environmental conservation and charity sales. Meanwhile, BYD actively encourages users to take part in public benefit activities. BYD started a study support plan named “Tengshi Weiguang Book Corner” to provide books for 39 rural schools in Pingjiang in Hunan Province and Mangshi in Yunnan Province. BYD provides support for rural areas in building ponds, transforming farmlands, and constructing roads. All of these improve infrastructures in rural areas and enhance people’s happiness index. BYD also develops training for people with disabilities to improve their employment, help them master the skills, and integrate into society well.

Protection of employee rights and benefits: Apart from annual leave, maternity leave, and marriage leave regulated by laws, BYD also established the Labor Dispute Coordination Committee to propagandize legal knowledge, communicate advice and suggestions, and mediate disputes. The Labor Dispute Coordination Committee is composed of a staff representative, a management representative, and a ship steward. They work together to deal with labor disputes. BYD also provides various ways such as HRJD, email, letterbox, telephone number, and “HR face-to-face” to collect staff feedback.

3.2.3 Corporate Governance Information Disclosure

A good corporate governance structure will help enterprises create smooth information conduction mechanisms, thus disclosing internal control information. Disclosed internal control information will also help investors put forward a more suitable plan to restrict earnings management and reduce the risk of earnings management of the listed company.

BYD's corporate governance information disclosure focuses on governance structure, salary incentives, and employee management.

BYD's governance structure is strict and definite. Furthermore, BYD established a Corporate Social Responsibility Committee (CSR Committee), whose duties are to carry out and develop plans for daily work. The 2023 Social Responsibility Report mainly discloses the company's organizational structure, diversified backgrounds of the board of directors, and internal control.

In general, ESG information disclosed by BYD is selective. Other problems exist, such as the report being insufficient and information issued by the company being related to morality, which is inessential. Meanwhile, BYD stresses performance indicators but neglects environmental influence and beautifies its image through propaganda. However, these problems do not just exist in ESG information disclosed by BYD but also appear in other enterprises' ESG disclosures. Most companies show positive information on their ESG report but do not indicate negative ones and related solutions. This is because negative information will affect enterprises' reputation, brand value, and market position, which may make it hard for enterprises to recover from crises. Furthermore, a mass of quantitative analyses are employed, and quantitative disclosure, which could be used to develop the comparison, needs to be included in its disclosure of social responsibility. Therefore, the relationship between data is not close, and it is hard to determine the variation tendency. However, these problems also exist in ESG information disclosure provided by many enterprises.

4 Case study of new energy vehicle enterprises

4.1 Standardize evaluation criteria and accelerate ESG framework development

The government sector should enhance top-level design; relevant sectors should establish unified ESG information disclosure standards, issue a compulsory policy for disclosure, and require enterprises to disclose ESG information, including environmental indicators, the performance of social responsibility, and governance structure, at regular intervals, to help enterprises disclose high-quality ESG information, then promote high-quality development for enterprises. Most new energy vehicle enterprises show sustainable development on their website to show their current situation about sustainable development to the public. However, there is no completed theoretical framework for sustainable development to guide the practices done by enterprises. Therefore, it is necessary to speed up legislative work related to ESG, formulate laws and regulations for ESG, and set up a supervision organization to supervise and manage the practices and disclosure of ESG.

4.2 Incorporate Chinese characteristics into ESG disclosure standards.

Chinese characteristics should be included in the ESG information disclosure framework. The establishment of ESG information disclosure standards should take "carbon peaking and carbon neutrality goals" into consideration to show China's new concept for development. Regarding the "low carbon system", it should pay attention to co-build global climate governance system featuring green and low-carbon, generally acknowledge the truth and win-win cooperation, and should start to attach attention to China's new concepts on climate change and national strategies to help enterprises realize green and low carbon transformation, then realize Chinese-type modernization and sustainable development. Take the new energy vehicles industry, for example. Formulate reasonable emission standards for enterprises to

develop evaluation; express clearly that enterprises should disclose greenhouse gas emissions of scope 3, list detailed disclosure requirements, and provide relevant guidance.

4.3 Establish governance frameworks and adopt international standards with third-party evaluation.

New energy vehicle enterprises should attach importance to the ESG concept and carry it into practice, then actively take responsibility for the environment, society, and governance to improve ESG performance. Vehicle enterprises should set up effective governance frameworks and mechanisms by referencing information from the International Sustainability Standards Board (ISSB) and requirements of climate disclosure implemented around the world. Foster the ability to calculate and analyze financial issues related to climatic risk as early as possible and set up a system for carbon emission calculation and data management. Environmental information, such as emission data of greenhouse gases, should be disclosed based on actual data. Meanwhile, enterprises could employ a third party to develop ESG reports, which will further enhance the reliability of ESG information disclosure.

5 Conclusion

This study develops a systematic study on practices done by BYD to develop its ESG information disclosure in 2023. Under the circumstances of the ESG report in China, BYD ESG information disclosure provides a feasible concept for other new energy vehicle enterprises to develop their ESG information disclosure, creating positive significance around the world. However, information disclosed by new energy enterprises on their ESG is still limited, such that information disclosed is selective and insufficient; the way of information disclosure is simple, with a lack of support of data and charts. All of these should be improved.

Future studies on ESG information disclosure should focus on disclosing ESG information from various aspects; appropriate quantitative information shall be included; materials such as data and charts should be employed to increase the reliability of information disclosed; develop empirical studies to directly show the variation tendency among data and mechanism affecting new energy vehicle enterprises. Regarding the content of ESG, reduce selective contents to complete the information disclosed and make the information disclosed more accurate. On the other hand, a deeper study of the concept and content of ESG will be conducted to form a minimal consensus on the understanding of ESG. At present, a complete consensus on ESG has yet to be reached; scholars from every walk of life have different understandings of the definition of ESG. In future studies, the definition and range of ESG should be defined explicitly.

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