



Construction of ESG evaluation system for new energy enterprises: Taking CATL and BYD as examples

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Abstract. With the introduction of sustainable development, ESG related information disclosure has gradually become an important part of investors' attention, and domestic research on ESG information disclosure and evaluation systems has developed rapidly. With reference to three different sections, this paper constructs a set of ESG evaluation system suitable for the new energy industry and applies it to two leading new energy companies - CATL and BYD. Finally, a comparison of the scores reveals that there are certain gaps in the disclosure of information on corporate governance in new energy companies, which can be further improved to attract investors and improve corporate performance.

Keywords: ESG disclosure, ESG evaluation system, new energy companies

1 Introduction

Since the CSRC issued a revised version of the Code on Governance of Listed Companies on 15 June 2018, which for the first time explicitly required listed companies to disclose information on environmental, social and corporate governance aspects, the three major exchanges have also started to work on continuously further improving their guidance documents on ESG information disclosure such as social responsibility. According to the ESG rating analysis report of A-share listed companies released by SynTao Green Finance, as of 29 June 2021, 26% of A-share listed companies have issued ESG reports for 2020, and this proportion was as high as 83% among Shanghai and Shenzhen 300 listed companies.

New energy enterprises are those that use new energy industries such as solar, wind, geothermal, storage, tidal and ocean energy. In recent years, these enterprises have experienced rapid growth as a result of sustainable development and the need to conserve resources and protect the environment. Under the guidance of "carbon neutrality", ESG information disclosure by energy companies has become increasingly important to investors. In April 2022, the China Energy Administration issued its "Guidance on Energy Work in 2022", in which it proposed to enhance supply security capacity, adhere to the requirements of achieving peak carbon and carbon neutrality, vigorously develop non-fossil energy sources, focus on cultivating new energy industries and models, and

continuously optimize the energy structure, which is in line with the concept of ESG and encourages companies to strengthen their ESG efforts and to integrate with national policies. The ESG performance of the new energy sector is therefore worthy of attention and study.

2 Review of the literature

Firstly, there is a considerable amount of research, both nationally and internationally, that proves that high quality disclosure influences investors' decisions, giving them more information to refer to and also attracting more and more stable investments for companies, promoting their financing activities and increasing their corporate value. Bloomfield and Wilks (2000)' research suggests that increased levels of disclosure can make investors more willing to invest at higher prices, especially when they are exposed to some unpredictable risks [1]. Dimson (2015) found that companies spending on ESG could instead significantly reduce their own financing costs and deliver greater efficiency [2]. In a study of supervisor company data, He et al. (2012) found that the higher the quality of corporate social responsibility disclosure, the lower the financing constraint and the more beneficial to corporate financing [3]. From a signaling perspective, Li and Xiao (2015) also suggest that active corporate social and environmental responsibility also means that companies are releasing positive public signals, which are conducive to winning the trust and support of the government, investors and the public, among others [4].

On the other hand, ESG information disclosure, as a kind of non-financial information disclosure, will counteract the production and operation activities of enterprises and corporate decision-making, helping enterprises to make the right decisions and improve the efficiency of production and operation. There are numerous studies showing that information, information disclosure can effectively eliminate possible information asymmetries, improve corporate transparency, bring about more external monitoring and social attention, and in turn, improve corporate governance and decision-making, significantly reducing the business risks of enterprises (Friede et al. 2015; Zhang et al. 2013) [5][6].

3 Choice of ESG evaluation system

ESG disclosure, as an important element of non-financial information disclosure, will work in two ways. Firstly, for investors, ESG evaluation system can see the company's performance in undertaking environmental and social responsibility and corporate governance, helping investors to further understand the company and make the right investment decision; secondly, it can have the opposite effect on the business decision of the company, through the disclosure of ESG performance can bring more social supervision, which will help the company to improve its own governance level. This is why it is becoming an integral part of corporate disclosure.

In fact, although there are now a certain number of third-party professional ESG rating agencies in China, there is still a gap between China and the international community in the construction of the ESG rating system, which is mainly reflected in the fact that the relevant evaluation system is not well adapted to the development status of domestic enterprises. In order to construct an ESG evaluation system suitable for Chinese new energy companies, this paper refers to three main indicators:

3.1 Professional third party evaluators

This paper mainly selects the evaluation systems of SynTao Green Finance, CSI ESG and MSCI as the reference basis, and selects indicators with universal applicability as the basis for the construction of the ESG evaluation system of the new energy industry.

3.2 Disclosure requirements of the three major exchanges

The specific requirements are set according to the new ESG reporting guidelines revised by Shanghai Stock Exchange, Shenzhen Stock Exchange and HKEX in 2019.

3.3 China Energy Bureau Issues Guidance on China's Energy Work in 2022

In this guiding opinion, it is highlighted that we should further implement the carbon peak and carbon neutral target requirements, further implement the 14th Five-Year Plan for Renewable Energy Development, vigorously develop non-fossil energy sources, focus on fostering new energy industries and models, and continuously optimize the energy structure. In addition, strengthening energy storage, regulation and demand-side response capabilities, promoting technological research in key areas, enhancing safety and optimizing the business environment are also highlighted in the guidance.

3.4 New Energy ESG Performance Evaluation System

As shown in Table 1, the evaluation system is also divided into three main blocks according to E (environmental responsibility), S (social responsibility) and G (corporate governance), where each block is divided into a number of specific sub-blocks, which have individually set specific indicators. In addition, the indicators are divided into data indicators (with an * after the specific indicator) and non-data indicators, depending on what may be involved and the data required. Thus, there are 29 indicators specific to the environment, 43 indicators specific to social responsibility and 24 indicators specific to corporate governance under this system, for a total of 100 indicators, 27 of which may involve specific data. Based on these indicators, 0 points for disclosure in the report for indicators that can be displayed without data, 1 point for disclosure, 1.2 points for a complete system or data support; 0 points for indicators involving data situation that are not disclosed by the company, 0.5 points for textual description disclosure, 1 point for specific data support.

Table 1. ESG Evaluation System (self-painted)

| | | | |
|----------------------------|------------------------------------|---|---|
| E | E1 Environmental Policy | E11 Environmental Management System | Carbon emission control system |
| | | E12 Environmental Management Objectives | Expected objectives |
| | | E13 Energy saving management system | Energy saving measures |
| | | E14 Green procurement links | Suppliers/transport links/procurement planning |
| | | E15 Green products | Product Development Direction |
| | | E16 Negative environmental events | |
| | E2 Energy and resource consumption | E21 Energy use | Fossil energy*/water resources*/land resources* |
| | | E22 Energy savings | Fossil energy*/water resources*/land resources* |
| | | E23 Renewable energy use | Type/amount of renewable energy use* |
| | E3 Pollutant Release Management | E31 Sewage discharge | Effluent discharge* / treatment measures |
| | | E32 Exhaust emissions | Exhaust emissions* / treatment measures |
| | | E33 Solid waste emissions | Emissions of hazardous substances* / emissions of solid waste* / treatment measures |
| | E4 Responding to climate change | E41 Carbon emissions | Greenhouse gas emissions*/specific emission link |
| | | E42 Climate Change Management System | Climate risk/climate change response |
| | | E43 Inputs in climate governance | Financial input*/technical input |
| | S | S1 Staff Development | S11 Vocational training for staff |
| S12 Safety at work | | | Safety and security measures / Worker's compensation system |
| S13 Employee Rights | | | Incentives / Employee Benefits |
| S14 Staff employment | | | Age Ratio* / Education Ratio* / Gender Ratio* |
| S2 Supply Chain Management | | S21 Supply chain responsibility relationships | Supply chain concentration / distributors / suppliers |
| | | S22 Supply chain monitoring system | Supply Chain Compliance / Distributors / Suppliers |
| | | S23 After Sales Service | Service approach / Service channels |
| S3 Consumer Rights | | S31 Consumer economy protection | Risks faced/protection measures |
| | | S32 Consumer privacy and data security | Risks faced/protection measures |
| | | S33 Customer Relationship | Complaint channels/customer |

| | | Management | relations network |
|---|---|---|---|
| | S4 Product Management | S41 Product quality certification system | Certification system |
| | S5 Social contribution | S51 Donation Event | Number of events* / Amount donated* |
| | | S52 Poverty alleviation activities | Number of activities* / Amount donated* / Poverty alleviation results* |
| | | S53 Social Services | Rural revitalisation input* / epidemic assistance input* / social honour |
| | | S54 Tax contribution | Total tax paid* |
| | | S55 Employment contribution | Employment Opportunities* |
| | | S56 Negative social events | |
| | S6 Contribution to science and innovation | S61 Intellectual property protection | Protection system |
| | | S62 Investment in scientific research | Amount invested*/number of scientific staff* |
| | | S63 Technical outputs | Clean technology/green building/green finance/patents* |
| | | S64 Knowledge platform building | Construction content |
| | | S65 Digitalization of the energy industry | Construction content |
| G | G1 Business Ethics | G11 Anti-corruption system | Anti-corruption governance measures/governance outcomes |
| | | G12 Whistleblowing system | Institutional system |
| | | G13 Tax transparency | Disclosure of tax-related information |
| | | G14 Industry Code of Conduct | Participation in the development of or compliance with industry guidelines/industry information |
| | G2 Governance system | G21 Information Disclosure System | Periodic/Interim Reports |
| | | G22 Board independence | Personnel composition/independence statement |
| | | G23 Executive Salary Policy | Salary Situation* / Salary Composition / Incentive and Disciplinary Policy |
| | | G24 Audit activities | Disclosure of external audit reports/internal audit activities |
| | | G25 Negative corporate governance events | Regulatory penalties/legal proceedings |
| | | G26 Corporate financial risk and response systems | Financial quality / financial risk / response policy |
| | | G27 Governance system | Institutional set-up/operation of the institution/incentives and constraints |

| | | | |
|--------------------------|--|-----------------------------------|---|
| | | G28 Concentration of shareholding | Shareholding of major shareholders* |
| | | G29 Investor Relations | Protection of small and medium-sized shareholders |
| G3 Party building topics | | G31 Party building activities | Organization of the event |
| | | G32 Political background building | Construction measures |

4 CATL and BYD ESG Score

4.1 Case presentation

Founded in 2011, Contemporary Amperex Technology Co., Limited is one of the first internationally competitive power battery manufacturers in China, focusing on the research, development, production and sales of new energy vehicle power battery systems and energy storage systems, and is currently the number one company in China's new energy power industry. BYD Company Limited ("BYD") was founded in February 1995 and is headquartered in Shenzhen, Guangdong Province. The company employs more than 220,000 people, and its business spans four major industries: automobile, rail transportation, new energy and electronics, and is currently second only to CATL in China's new energy power industry. CATL and BYD are the leading companies in the new energy power industry. The ESG performance of these two companies, which account for more than 70% of the market share, has been selected as the subject of the study, and some common problems and directions of concern in the industry can be identified. In terms of ESG disclosure for these two companies in 2021, on 20 March 2022, BYD released its own 2021 annual social responsibility report; and on 22 April 2022, it released its 2021 annual environmental, social and corporate governance report. Prior to this, CATL and BYD had both released separate ESG-related reports for three consecutive years, and the reports were relatively complete and in the leading position in their industries.

4.2 Specific scores for CATL and BYD

With a total score of 63.3, BYD clearly outperformed CATL's 47.7, but both scores were unsatisfactory, with the total score ratio below 70%, and CATL did not exceed 50%.

Table 2. CATL and BYD Scoreboard (self-painted)

| | Score for CATL | Score ratio of CATL | Score of BYD | Score ratio of BYD |
|---|----------------|---------------------|--------------|--------------------|
| E | 15.0 | 51.72% | 18.5 | 63.80% |
| S | 25.5 | 59.30% | 32.4 | 75.35% |
| G | 7.2 | 30.00% | 12.4 | 51.67% |

| | | | | |
|-------------|------|-------|------|-------|
| Total Score | 47.7 | 47.7% | 63.3 | 63.3% |
|-------------|------|-------|------|-------|

4.3 Comparative analysis of the scores of the two

The overall score shows that BYD Group significantly outperforms CATL, with BYD's ESG score exceeding CATL by more than 20 points, with the main gap between the two being in the areas of social responsibility and corporate governance.

In terms of corporate governance, BYD's score is almost twice that of CATL. In addition to the industry code of conduct, BYD also properly disclosed industry information about its own industry and specific results of its own anti-corruption governance, and therefore scored higher on the industry code of conduct and anti-corruption system.

In the social responsibility section, there are similarities in the disclosure of information between BYD and CATL, except for the donation activities section, where BYD has a separate display and CATL has a certain lack of disclosure, and other specific indicators.

In terms of the environment, there is not much difference between the two score profiles. In terms of waste emission management, BYD has some data to support and control measures, so this segment is the only module that scores well ahead of CATL. CATL also has an advantage in environmental management systems, for example, it carries out the presentation of environmental management objectives, an aspect that is somewhat missing in BYD.

4.4 Areas for improvement in ESG performance for new energy companies

In terms of scores, the performance of BYD Group and CATL under this system is less than satisfactory, especially in the areas of corporate governance and the environment, where scores are significantly lacking. CATL and BYD Group, as the first and second leading companies in China's new energy industry in terms of market share, are at the leading level of the industry, but there are still significant deficiencies in ESG information disclosure, so there is still much room for improvement in ESG information disclosure in the entire new energy industry. In terms of corporate governance, there are significant shortcomings in both party building issues and governance equity concentration; and in terms of environmental policy, as a new energy group, there is not enough disclosure on energy conservation and the specific use of new energy, especially in terms of land resources and biodiversity, which scores poorly. There is still room for improvement in terms of data support and system improvement.

5 Conclusions and insights

By referring to three different aspects of the evaluation system and combining the industry characteristics of the new energy industry, this paper constructs an ESG scoring

system specifically for new energy companies. Then it uses CATL and BYD as examples to calculate the scores of these two companies, which are the leading companies in the new energy industry. The study found that both companies scored best in environmental information disclosure, but their disclosure scores in corporate governance system were somewhat lacking, especially in areas with certain Chinese market background such as party building board, board independence, and tax transparency, which were not adequately disclosed. Thus, CATL and BYD, as companies listed on the Shenzhen Stock Exchange, should pay more attention to the disclosure of information on corporate governance with Chinese characteristics and improve their ESG performance, so that consumers can learn more about the company's activities in terms of these non-financial information, and also bring some reference to the direction of the company's development based on the scores.

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