Research on Climate Disclosure of Companies Listed in both Mainland China and Hongkong

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Introduction

Responding to climate change has become an urgent challenge to human society in the 21st century, and the development of green finance has also become a global consensus to tackling climate change. The construction of a “Mankind is a community with a shared future” proposed by President Xi Jinping is one of the key fields to address climate change. On September 22, 2020, President Xi Jinping announced at the United Nations General Assembly that China will take more powerful measures, "striving to peak carbon dioxide emissions by 2030, and strive to achieve carbon neutrality by 2060".

On 15th October, President Yi Gang of The People's Bank of China pointed out when attending the 42nd International Monetary and Financial Committee meeting that "The People's Bank of China is actively promoting green finance and assist to achieve the goal of carbon dioxide emissions and carbon neutrality."

On 26th October, the Ministry of Ecology and Environment, the National Development and Reform Commission, the People’s Bank of China, the China Banking and Insuance Regulatory Commission, and the China Securities Regulatory Commission jointly issued a guidline to promote investment and financing in response to climate change. The goal is to promote the coordinated and efficient advancement of climate change policies and policies in various fields such as investment, finance, industry, energy and environment by 2025.

Corporate climate disclosure is the core information source for investors to judge climate risks and allocate green assets. As companies’ climate risks have received more and more attention, climate risks have been incorporated into the overall financial risk framework of companies by many mainstream investment institutions, and also the impact of corporate measures against climate risk on corporate valuation and long-term performance is becoming more and more significant. Therefore, corporate climate disclosure and the quality of disclosure have become the focus of attention of capital markets and regulatory agencies.

The importance and particularity of climate disclosure is reflected in the economic significance of climate risk and climate disclosure. This is embodied in the capital market as the relationship among climate information disclosure and stock liquidity and long-term performance. First, an important economic purpose of disclosure is to reduce information asymmetry, improve stock liquidity of listed companies, and reduce financing costs. Due to the huge demand for climate information in the capital market in recent years, improving the quality of climate disclosure may have become an important motivation for companies to improve stock liquidity. Secondly, climate risk is one of the long-term risks of enterprises, and this risk is closely related to enterprises’ long-term performance or performance sustainability. Investors can judge the long-term performance of a company through the quality of climate risk disclosure. Combining the above factors, based on the unique characteristics of

A+H share liquidity, valuation, and difference in market value of A+H shares of listed companies in the investigation, this research is going to focus on whether the quality of climate disclosure is related to the motivation to improve stock liquidity or not and whether it is related to the company's long-term performance.

Combining the status quo of climate information disclosure by A+H share listed companies and the important and special economic significance of climate disclosure, analyze the motivations for climate disclosure and the relationship between disclosure quality and corporate performance:

Improving stock liquidity is an important motivation for companies to make high quality climate disclosure, and there is a strong positive correlation between the quality of climate disclosure and the company's long-term performance.

Generally, only key financial indicators can affect the liquidity of stocks and are related to the long-term performance of the company. Therefore, the above findings indicate the important influence of climate disclosure in the current capital market.

Climate disclosure policy recommendations based on the research:

1）Improve the standardization of green financial infrastructure construction, complete corporate environmental disclosure policies, and formulate climate disclosure frameworks and standards that is suitable for Chinese Mainland companies.
2）Improve the company's ability for environmental disclosure, promote quantitative measurement of climate & environmental risks, and participate in the development of a reporting and accounting system that can be benchmarked.
3）Promote and support financial institutions to strengthen the identification and management of environmental and climate risks, provide data support for the identification of environmental risks of financial institutions, promote financial institutions to fulfill their social responsibilities, identify and manage climate risks, and contributes to the "double cycle" of China's economy.
4）Establish a financial cooperation mechanism to address climate change; Establish a joint work platform for regulatory records, exchanges, listed companies, and third-party professional rating agencies, as well as public communication and supervision channels.
5）Learn from climate information disclosure experience, strengthen cooperation between markets, refer to ESG disclosure requirements such as the Hong Kong Stock Exchange, learn from international market experience, and integrate with international standards on the premise of adapting to the domestic market .

Research Methodology

1) Investigate the climate disclosure in annual reports, ESG, CSR and other reports of A+H share companies.
2) Based on the key indicators of climate disclosure, score the disclosure of each company on disclosure quality.
3) Analyze the quality of climate disclosure and financial information such as stock liquidity and long-term corporate performance to identify correlation.

The Quality of Climate Disclosure of A+H Share Listed Companies

Although guidelines including Task Force on Climate-related Financial Disclosures (TCFD) are being adopted by more and more companies, the extent to which companies actually follow the recommendations of such frameworks varies.

Climate Disclosure Key Performance Indicator Table

	Defination	Reference Standard
Total greenhouse gas emissions	Whether the company disclose the total amount of greenhouse gas emissions? If so, get one point.	Global Reporting Initiative "Sustainability Reporting", Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide", Chinese Academy of Social Sciences "Chinese Corporate Social Responsibility Reporting Guidelines", World Steel Association Sustainability Indicators, Task Force on Climate-Related Financial Disclosures (TCFD).
Has it been verified	Whether the greenhouse gas emissions data released by the company have been verified by a third-party agency. If so, get one point.	
Has it been continuously disclosed	Whether the company has continuously disclosed greenhouse gas emission information for 3 consecutive years (starting from the first disclosure year if it has been listed for less than 3 years), if so, get one point.	
Scope 1 emissions	Whether the company has released Scope 1 emission information or not. If released, get one point.	Global Reporting Initiative "Sustainability Reporting", Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide".
Scope 2 emissions	Whether the company has released Scope 2 emission information or not. If released, get one point.	Global Reporting Initiative "Sustainability Reporting", Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide".
Scope 3 emissions	Whether the company has released Scope 3 emission information or	Global Reporting Initiative "Sustainability Reporting".

	not. If released, get one point.	
Emission intensity/density	Whether emission intensity or density information is disclosed in the report, if so, get one point.	Global Reporting Initiative "Sustainability Reporting", Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide".
Comprehensive energy consumption	Whether comprehensive energy consumption information is disclosed in the report. If so, get one point.	Global Reporting Initiative "Sustainability Reporting", Chinese Academy of Social Sciences "Chinese Corporate Social Responsibility Reporting Guidelines"
Efficiency	Whether the report disclose energy consumption per unit of product or energy consumption per 10,000 CNY of output value? If so, get one point.	Global Reporting Initiative "Sustainability Reporting", Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide", Chinese Academy of Social Sciences "Chinese Corporate Social Responsibility Reporting Guidelines", World Steel Association Sustainability Indicators.
Energy usage	Whether the energy consumption is disclosed in the report by type, if so, get one point.	Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide", Shanghai Stock Exchange "Guidelines for Environmental Information Disclosure of Listed Companies".
Renewable energy usage	Whether the use of renewable energy is disclosed in the report. If so, get one point.	
Emission target	Whether the emission target is disclosed in the report. If so, get one point	Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide", Shanghai Stock Exchange "Guidelines for Environmental Information Disclosure of Listed Companies", Task Force on Climate-Related Financial Disclosures (TCFD).
Energy use efficiency target	Whether the energy use efficiency target is disclosed in the report. If so, get one point.	Hong Kong Stock Exchange "The Environmental, Social and Governance Reporting Guide", Shanghai Stock Exchange "Guidelines for Environmental

		Information Disclosure of Listed Companies", Task Force on Climate-Related Financial Disclosures (TCFD).
Green investment	Whether the environmental protection spending is disclosed in the report. If so, get one point.	
Carbon allowance	Whether the carbon allowance is disclosed in the report. If so, get one point.	
Subsidiary disclosure	Whether the emission information of the subsidiary is disclosed in the report? If so, get one point.	

Companies with high disclosure quality

Grades (Full mark 16)
10 out of 16

CSSC Offshore & Marine Engineering (Group) Company Limited (Chinese Name: 中船防务)
Sinopec Group (Chinese Name: 中国石油化工股份)
CNPC (Chinese Name: 中国石油股份)
Fosun Pharma (Chinese Name:复星医药)
Shanghai Electric (Chinese Name:上海电气)

9 out of 16

Beijing North Star Company Limited (Chinese Name: 北京北辰实业股份有限公司)
Zhejiang Shibao Company Limited (Chinese Name: 浙江世宝股份有限公司)
COSCO Shipping Energy Transportation Co., Ltd. (Chinese Name: 中远海能)
Livzon (Chinese Name: 丽珠医药)
Chenming Paper (Chinese Name: 晨鸣纸业)
CIMC (Chinese Name: 中集集团)
YOFC (Chinese Name: 长飞光纤光缆)

The total disclosed greenhouse gas emissions are nearly 1.6 billion tCO2e

More than 80% of the companies are able to continuously disclose total greenhouse gas emissions and energy usage

More than 50% of the companies can disclose Scope 1 emissions, Scope 2 emissions, emission intensity/density, comprehensive energy consumption, and energy efficiency indicators.

ESG report has the highest quality of climate disclosure

After analyzing the reports of A+H-share listed companies, we found that ESG reports (50 companies) scored the highest on the quality of climate information disclosure, followed by annual reports (13 companies) and CSR reports (63 companies).

Industry Analysis

Analyzing the data of 108 companies that disclosed carbon intensity-related data, public utilities have the highest carbon intensity, followed by the energy industry, and the financial industry has the lowest carbon intensity.

The quality of disclosure in the technology industry is relatively high

The average score of climate disclosure of all A+H-share listed companies is 6.03 points. in terms of the average industry performance, the technology industry has the highest score, at 7.50. Although the number of industrial enterprises is the largest, their average score is the lowest at 5.52 points. The average score of financial enterprises is near the mean value of the scores of all the samples.

2. The correlation between the quality of climate information disclosure, stock liquidity and long-term performance

Research Findings:

1）Companies with lower liquidity H Share and higher liquidity A Share do better in terms of climate disclosure

2）Long-term corporate performance is positively correlated with climate disclosure

3）Companies with smaller H-A price ratios have higher quality of climate information disclosure

Relationship between the quality of climate disclosure and stock liquidity

The turnover rate of stocks can be used to measure stock liquidity. The higher the turnover rate, the more active the stock trading and the higher the stock liquidity. The difference in the turnover rate of A+H shares is the turnover rate of A shares minus the turnover rate of H shares. The greater the turnover rate difference, the worse the liquidity of H shares relative to the liquidity of A shares.

The analysis shows that companies with larger turnover rates in A+H shares (relative to the median of the full sample) have higher quality of climate disclosure.

Existing research shows that companies have the motivation to improve stock liquidity and reduce financing costs by improving the quality of information disclosure. It can be seen that the lower the liquidity of H shares relative to A shares, the higher the quality of corporate climate disclosure are. This reflects the motivation of companies with low liquidity in H-shares to improve their liquidity by improving the quality of climate disclosures. This is consistent with H-share investors’ emphasis on climate disclosure, and it also reflects the efforts of companies to meet H-share investors’ demand for climate disclosure.

When analyzing the relationship between the turnover rate difference of larger and smaller companies and the quality of climate disclosure, it is found that the relationship between turnover rate and the quality of climate disclosure is more obvious in smaller companies.

This result confirms the above discussion, because smaller companies are more likely to have low liquidity due to information asymmetry, and are therefore more motivated to increase liquidity by improving the quality of disclosure.

The relationship between the ratio of A+H shares market capitalization and the quality of climate information disclosure

Companies with a relatively small market capitalization ratio (ie, companies with a larger market capitalization of H-shares relative to A-shares) have higher quality of climate disclosure, and this relationship is more obvious in smaller companies. Consistent with the analysis of turnover rate, companies with a relatively larger market value of H-shares are expected to improve the quality of disclosure to meet the needs of foreign/institutional investors for climate information. This trend is more obvious in smaller companies, because small companies are less liquid and more motivated to improve the quality of disclosure.

The relationship between the quality of climate disclosure and long-term performance

Studies have shown that companies with better long-term performance have higher disclosure quality. This is because companies with stable and long-term competitive advantages pay more attention to long-term risks, including climate risks. At the same time, companies with better long-term performance are also more capable of investing ahead of schedule in reducing long-term climate risks.

After analyzing the correlation between short-term (2019) and long-term (2017-2019) performance of companies and the quality of climate disclosure, it is found that companies with better performance in the short-term or long-term have generally higher disclosure quality.

Specifically, large companies, high ROE, high operating cash flow (OCF), high asset turnover, and high revenue growth have higher quality of disclosure. This illustrates that the disclosure of climate reveals the long-term risks and long-term performance sustainability of companies.

The sustainability of a company's long-term performance is also related to the level of corporate governance. The analysis shows that companies with low degree of earnings management (that is, the possibility that the net profit is falsely high or far below the reasonable level through accounting adjustments is low), the separation of the two autorities (corporate control and ownership) is high, and the proportion of the largest shareholder is high have high qualities of climate information disclosure. At the same time, the disclosure quality of state owned enterprises managed by the central government is significantly higher than that of private enterprises and state-owned enterprises managed by provincial and/or municipal governments. These results are consistent with existing research, that is, companies with high levels of corporate governance and central enterprises have high quality of climate disclosure.

The relationship between the quality of climate disclosure and the premium of A+H shares

The analysis shows that the lower the discount of H shares relative to A shares (that is, the lower the premium between A shares and H shares), the higher the quality of its climate disclosure.

Past studies have shown that the better the long-term performance of a company, the smaller the premium between A-shares and H-shares. Compared with A-share investors, H-share investors have more institutional investors and longer investment cycles, so they are more concerned about the long-term returns of enterprises. Since companies with good climate disclosure have better long-term performance, and companies with good long-term performance A and H have lower premiums, companies with lower A and H premiums have better climate disclosures.

Since the premium of A and H shares is also affected by the size of the company, when doing further analyze the size of the company, finds out that companies with lower A and H premiums have higher disclosure quality regardless of whether it is larger or smaller.

3. Improve the quality of climate disclosure

In the third edition of the ESG Guidelines of the Hong Kong Stock Exchange, more than half of the scope 1 and scope 2 emissions disclosures of new key performance indicators can be achieved, but the disclosure of targets is still insufficient, especially in the setting of quantitative targets. It is recommended that listed companies select emission reduction base years based on historical emission data, and set ambitious and accessible quantitative targets.

Good practice cases | Set quantitative goals

COSCO Shipping Energy Transportation Co., Ltd. (Chinese Name: 中远海能)

A long-term total greenhouse gas target has been set, and continuous efforts have been made to achieve zero emissions of greenhouse gases to contribute to the national carbon neutrality target.

Problems found in the research

1. There are reports that SO2 is regarded as a greenhouse gas. There are also reports that do not disclose but explain as "no greenhouse gas emissions", but the report discloses electricity consumption data.
2. There are reports that it is difficult to accurately quantify greenhouse gas emissions.
3. Subsidiaries of Conch Cement（海螺水泥） and Jiangxi Copper（江西铜业） made disclosures in accordance with local policy requirements, but they were not reflected in the company's annual report.

Recommendations

1. Strengthen the awareness of climate change and increase the company's attention to climate change.
2. Establish the company's internal MRV system as soon as possible to improve the climate change capacity building of relevant personnel.
3. Pay attention to local policies, use existing data, and make unified disclosures at the group level.

Good practice case, disclosing subsidiary climate information

Shanghai Pharma (上海医药）

Complete disclosure of 37 directly affiliated companies and also subsidiaries.

Luoyang Glass (洛阳玻璃)

Detailed disclosure of greenhouse gas emission data of each production line by emission source.

Understand corporate carbon disclosure policy requirements and good practices

In order to implement the State Council's "Thirteenth Five-Year Plan for Controlling Greenhouse Gas Emissions", the national climate change authority has incorporated the "Greenhouse Gas Emission Information Disclosure System" into the "2018 Annual Greenhouse Gas Emission Control Target Responsibility Assessment" carried out by the state for all provinces. , Occupies 1 point out of the total score of 100 points. Although the national level didn't acually establish a greenhouse gas emission disclosure system during the "13th Five-Year Plan" period, the provincial and municipal levels have actively explored policy formulation and practical operations. At present, the five provinces of Shaanxi, Sichuan, Jiangxi, Jilin and Zhejiang have officially issued management documents on corporate greenhouse gas emission information disclosure, providing a policy basis for enterprises in the province to disclose greenhouse gas emission information.

In addition to the above five provinces that officially issued corporate greenhouse gas emission information disclosure management documents, some other provinces and cities have also explored system construction. For example, Henan Province publicly solicits opinions on the first domestic standard for corporate carbon information disclosure, and the department of ecology and environment of Heibei Province released the greenhouse gas emission disclosure form of four key enterprises.

IPE Blue Low-carbon Map

An online PRTR- carbon disclosure platform

Active and passive disclosure system, including total greenhouse gas (Scope 1, 2), accounting methodology, third-party verification of data, Scope 3 emissions, supply chain emissions, activity level data, emission performance, emission reduction Information about goals and progress.

The platform supports corporate greenhouse gas accounting and calculation tools, with logical judgments, and preliminary data audits.

The platform can manage the data required by investors or customers.

Good practice case: Promoting disclosure by lending companies

Postal Savings Bank of China launched the "Gold Eye" credit risk monitoring system

In 2020, the Postal Savings Bank of China start to use the blue map environmental big data and financial technology ways to promote green finance, introduce dynamic assessment of corporate environmental credit, and achieve high-efficiency, low-cost compliance verification and full-process monitoring of loan companies, greatly reducing environmental factors, Risks of breach of contract by enterprises and industries caused by climatic factors and environmental safety accidents.
The Postal Savings Bank of China and IPE jointly discussed the credit repair model in combination with work practices. One is the continuous quarterly disclosure of corporate energy consumption data. Since launching the pilot program in March 2020, Postal Savings Bank of China has promoted continuous quarterly disclosure of energy consumption data for 204 companies. Starting from encouraging lending companies to disclose their quarterly electricity and coal consumption data, gradually transition to corporate annual carbon disclosure.

It is suggested that customers' climate disclosure requirements be incorporated into bank risk control.