

Sustainable Information Disclosure of Climate Risk in Vanke Co., LTD

-- Based on TCFD Framework

Xinran Tuo¹, Xinrong Zeng², Tianyu Luo³

¹ School of Management, Sichuan University of Science & Engineering, Yibin, China

² Professor, School of Management, Sichuan University of Science & Engineering, Yibin, China

³ School of Management, Sichuan University of Science & Engineering, Yibin, China

Abstract

On May 27, 2024, China's Ministry of Finance released the "Basic Guidelines for Corporate Sustainability Disclosure" (Draft for Solicitation of Comments), mandating that companies disclose sustainability information encompassing the four core elements of the TCFD framework. This article explores how the TCFD framework guided the development of these draft guidelines, using case studies to examine 2023 ESG practices of listed companies, including Vanke Enterprise Co., Ltd.'s disclosure reports utilizing the TCFD framework. Through analyzing Vanke's climate change mitigation strategies from perspectives such as governance, strategy, risk management, and indicators & targets, this study aims to provide actionable insights for Chinese enterprises applying the TCFD framework in environmental and social risk management.

Keywords

TCFD Framework; Sustainable Development Reporting Disclosure Guidelines; China Vanke Co., Ltd.

1. Introduction

The current global warming crisis constitutes a major challenge confronting humanity in the 21st century. Climate risks encompass uncertainties arising from extreme weather events, natural disasters, climate change impacts, and socioeconomic transitions toward sustainable development. Since the Paris Agreement, China has actively implemented climate adaptation measures, while nations worldwide have accelerated their low-carbon economic transitions. During this process, both direct climate impacts and economic transformation risks & opportunities have garnered significant attention. The inherent characteristics of climate-related risks significantly influence financial systems, compelling market participants to require corporate climate disclosures. This has catalyzed the establishment of the Task Force on Climate-related Financial Disclosures (TCFD), whose disclosure framework now serves as the foundation for climate risk reporting by regulatory bodies across nations^[1].

In September 2020, President Xi Jinping unveiled China's "30-60" dual-carbon goals-striving to achieve carbon peaking by 2030 and carbon neutrality by 2060. This vision underscores the nation's climate action ambition while serving as an intrinsic requirement for sustainable, high-quality development. Currently, carbon reduction stands as a key priority in China's 14th Five-Year Plan, with policymakers establishing a "1+N" policy framework for carbon peaking and neutrality. Under these targets, high-emission industries face immediate impacts: sectors like power generation and petrochemicals will be incorporated into the national carbon market, alongside the rollout of environmental policies featuring enhanced transparency and

mandatory disclosure requirements. Under this strategic framework, climate risks have evolved from "long-term uncertainties" to "immediate financial impacts". Enhanced policy regulations, green-oriented financial resource allocation, and the increasing visibility of physical risks are driving enterprises to implement systematic climate risk management^[2]. Regulatory measures now feature "routine mandatory disclosures, refined risk management frameworks, and differentiated industry standards", imposing penetrating constraints on the real estate sector – a high-carbon-emission, highly sensitive industry. The real estate sector faces systemic challenges where physical risks erode asset integrity and operational continuity, creating legacy burdens for assets in climate-sensitive zones, while transformation risks reshape industry norms and compel business model upgrades^[3].

As an industry leader, Vanke Co., Ltd. (Stock Code: 000002.SZ) demonstrates distinct exposure and resilience to dual risks due to its geographic portfolio distribution, existing property energy efficiency, green technology reserves, and carbon liability exposure. This study examines Vanke's identification, assessment, disclosure, and management of climate risks through the TCFD framework, which not only addresses corporate compliance and competitiveness but also provides empirical evidence for policy refinement and industry transformation^[4]. Using Vanke's 2023 Environmental, Social and Governance (ESG) Report as a case study, this paper compares the application of TCFD framework in environmental and social risk management across four report elements-strategic governance, risk management, indicators, and targets-based on disclosure recommendations from the TCFD framework and the draft of the "Basic Guidelines". The analysis aims to offer practical insights for enterprises in developing sustainable development reports.

2. Literature Review

2.1. TCFD Climate-related Financial Information Disclosure Framework

On June 26, 2021, the International Sustainability Standards Board (ISSB) released the Sustainability Disclosures Standard (ISDS), ushering in a relatively unified era for sustainability information disclosure and establishing a tripartite framework among international, EU, and US standards. During this process, the TCFD framework gained widespread recognition for its crucial role in shaping global sustainability disclosure standards, with ISSB, the U.S. Securities and Exchange Commission (SEC), and EFRAG all adopting it as a blueprint for developing related guidelines^[5]. On May 27, 2024, China's Ministry of Finance officially released the draft "Basic Standards" after extensively soliciting opinions from academia, industry practitioners, and ISSB experts. The draft actively incorporates valuable insights from ISSB standards while maintaining alignment with IFRS S1 in information quality characteristics, disclosure elements, and requirements. It retains the ESRM dual materiality principle and mandates that all stakeholders require enterprises to disclose sustainability information covering four core elements: governance, strategy, risk and opportunity management, and indicators and targets, further advancing the development of the TCFD framework in China^[6]. Currently, domestic research on TCFD application primarily employs case studies. On one hand, it focuses on climate disclosure practices in the financial sector, offering development recommendations through analysis of institutional cases. On the other hand, it conducts in-depth case studies across industries, examining how companies utilize the four TCFD elements to report carbon emissions and green information while summarizing implementation steps and disclosure experiences in climate governance and management.

2.2. Disclosure Requirements and Content of TCFD Framework

TCFD proposes disclosure recommendations based on the core elements of enterprise operation process from four dimensions: governance, strategy, risk management, indicators and objectives, focusing on the financial impact of climate change on companies^[7].

2.2.1. Administer

Drawing on the definition of governance from the OECD's "G20/OECD Corporate Governance Principles" and considering climate-related risks and opportunities, the TCFD's four elements impose two disclosure requirements for governance: first, describing how boards oversee climate-related risks and opportunities; second, detailing management's role in assessing and managing these risks^[8]. This indicates that disclosures regarding climate-related financial information should focus on helping users understand the governance processes, controls, and procedures for monitoring and managing such risks or opportunities within financial reporting frameworks^[9].

2.2.2. Strategy

The strategic element within the four components of TCFD refers to the future state an organization aims to achieve^[10]. The organization's strategy establishes the foundation for monitoring and measuring progress toward this envisioned state. Essentially, it requires companies to develop a rational organizational structure through guidance from management and governance bodies. This framework should address both actual and potential impacts of climate-related risks and opportunities on business operations, strategic planning, and financial projections. Additionally, it emphasizes timely disclosure of strategic resilience information when responding to diverse climate-related scenarios^[11].

2.2.3. Venture Management

Climate risk disclosure refers to the practice of encouraging companies to disclose how they identify, assess, and manage climate-related risks^[12]. Under the TCFD framework, the disclosure requirements for risk management elements primarily focus on describing a company's processes for identifying, evaluating, and managing climate-related risks, as well as how these processes are integrated into its overall risk management system^[13]. This enables investors and other stakeholders to more accurately assess an organization's overall risk profile and risk management activities when using climate-related financial disclosures^[14].

2.2.4. Indicators and Objectives

The "Indicators" element refers to the metrics companies use to assess climate-related risks and opportunities in line with their strategies and risk management. The "Objectives" element requires disclosing goals established by the company to manage these risks, including specific measures to ensure effective implementation, along with performance outcomes under these targets^[15]. The TCFD framework explicitly states that investors and stakeholders need clarity on how organizations measure and monitor climate-related risks^[16]. Through "Indicators and Objectives", they can objectively evaluate a company's potential risks, assess its ability to fulfill obligations, and determine whether its climate action plans are adequate^[17].

Sustainability disclosure, as a crucial component of corporate non-financial reporting, has garnered significant attention from global financial markets and regulatory bodies^[18]. Both the TCFD Recommendations and the draft "Basic Standards" aim to guide companies in disclosing sustainability information, though their focus and details differ^[19]. The TCFD Recommendations emphasize climate-related financial risk disclosures to help stakeholders understand how climate risks impact corporate finances^[20]. In contrast, the draft "Basic Standards" covers broader environmental, social, and governance (ESG) aspects through a four-pillar framework that prioritizes data quality. This approach seeks to drive high-quality development, guide enterprises in implementing sustainable development concepts, and

ensure information accuracy^[21]. Under economic globalization, Chinese companies may face challenges such as inadequate understanding of the draft standards and increased learning difficulties due to multiple conflicting guidelines. Strengthening management and improvement across all dimensions of information and data is therefore essential. Precise case studies tailored for Chinese enterprises are crucial to help them grasp the essence of the standards, optimize sustainability strategies, and advance steadily within the global economy^[22].

3. Application Analysis of TCFD Framework in Real Estate Industry

3.1. Major Climate Risks Facing the Real Estate Industry

Table 1. Type of physical risk

Type of physical risk	incorporate	Industry sensitive points	Type of physical risk
Acute risk	Extreme events such as floods, typhoons, extreme heat and wildfires.	Construction stoppage losses, property damage repair costs and insurance costs soared.	Acute risk
Chronic risk	Sea level rise, melting permafrost, persistently high temperatures.	Coastal assets are depreciating, cooling energy consumption costs continue to increase, soil subsidence affects building safety.	Chronic risk

Table 2. Type of transition risk

Type of transition risk	incorporate
Policy and regulatory risks	Impact of carbon pricing mechanism, expansion of carbon market, upgrading of building energy efficiency standards, policy response gap.
Technology change risks	Pressure of green technology iteration, AI and intelligent construction, low-carbon material replacement, risk of technology route selection.
Market preference risk	Green premium and brown discount, customer demand change
Reputation risk	"Greenwashing" allegations, crisis of social trust

As downstream players in the construction industry, real estate enterprises play a pivotal role in driving low-carbon transformation across the sector and achieving carbon peaking and carbon neutrality goals for the construction industry. According to the China Building Energy Consumption Research Report, the total carbon emissions from building processes nationwide reached 4.93 billion tons of CO₂ equivalent in 2018, accounting for 51.3% of China's total carbon emissions. The production, construction, and operation phases contributed 28.3%, 1%, and 21.9% respectively. Real estate companies can accelerate this transition through concrete measures: implementing green procurement policies to influence low-carbon production in steel and cement manufacturers; enforcing construction standards to regulate eco-friendly practices among contractors; and managing operational emissions through energy efficiency upgrades and renewable energy adoption. Given that the real estate sector is particularly vulnerable to climate impacts, proactive climate risk management and transparent disclosure of mitigation actions to stakeholders are essential. Climate change will increase the frequency of extreme disasters. Acute hazards such as hurricanes, floods, tsunamis, and forest fires can cause physical damage to buildings and result in asset value losses. Warming climates will accelerate sea-level rise, impacting the value of real estate companies' substantial physical assets in coastal areas. Research by Bernstein et al. found that properties near North American

coastlines exposed to rising sea levels sell for approximately 7% less than comparable homes, with price discounts increasing over time^[23]. Beyond physical climate risks, real estate firms face multiple climate transition challenges including carbon tax increases, subsidy policy changes, renewable energy technology advancements, and shifting investor preferences. Without implementing appropriate adaptation measures, these entities risk both short-term financial setbacks and long-term reputational damage.

3.2. The Core Requirements and Key Considerations of TCFD for Information Disclosure of Real Estate Enterprises

Table 3. TCFD for real estate enterprise information disclosure

administer	Disclose the mechanism by which the Board oversees climate risk and describe the specific responsibilities of management in implementing the climate strategy.
strategy	Analyze the impact of short/medium/long term climate risks and opportunities on business, analyze application scenarios, and explain the synergy between climate strategy and financial planning.
venture management	Climate risk identification methods, such as geographical GIS mapping, risk assessment process, risk integration mechanism.
Indicators and objectives	The disclosure of core climate indicators should include absolute values and intensity values, set scientific carbon targets, and explain the correlation between indicators and financial performance.

4. Assessment of Current Situation of Climate Risk Information Disclosure in Vanke -- Analysis based on TCFD Framework

4.1. Vanke Company Limited Profile

Founded in 1984, Vanke is China's leading urban-rural development and lifestyle service provider. Listed on the Shenzhen Stock Exchange in 1991, it stands as one of the nation's earliest public companies and a member of the "Old Five" (Shenzhen Stock Exchange's founding five-listed companies). The company's core operations span the real estate industry chain, encompassing property development, property management services, and residential leasing. Having maintained a dominant position in China's real estate sector for decades, Vanke has earned recognition for its prudent business practices. In recent years, the company has deepened its strategic positioning as an "urban-rural development and lifestyle service provider," transitioning from a single-focused residential developer to a diversified service operator. By emphasizing balanced development of property development and operational services, Vanke continues to consolidate its strengths in real estate development while expanding into commercial service sectors.

In green and low-carbon development, Vanke has been an industry pioneer: The first Chinese real estate company to incorporate "building an outstanding green enterprise" into its vision, proposing the concepts of "industrialized construction, green buildings, and fully finished interiors"; Shenzhen Vanke City Phase IV became China's first residential project certified with the "Green Building Three-Star" rating, while Shenzhen Dameisha Vanke Center was the nation's inaugural office building certified with LEED Platinum; it pioneered the World Wildlife Fund's "Carbon Reduction Pioneer" program in the global real estate sector; ranked among China's top 500 enterprises for implementing zero-waste office practices; and the Vanke Public Welfare Foundation was the earliest to propose decentralized ecological treatment methods for organic waste in urban communities, becoming China's first public welfare foundation to designate "community waste management" as a strategic focus area.

4.2. Climate-related Governance of Vanke Co., LTD

Vanke has established an ESG governance framework with the Board of Directors as its highest decision-making body. The Board is responsible for determining the company's ESG management structure and strategies, ensuring the establishment of appropriate and effective ESG risk management and internal monitoring systems. Climate-related risks and opportunities have been incorporated into the ESG management framework by the Board.

Table 4. Climate change governance

institution	role	constitute	duty
board of directors	decision-making body	board officer	1) To determine the company's climate change management framework and strategies; 2) To ensure the establishment of appropriate and effective climate-related risk management and internal monitoring systems; 3) To review discussions on critical climate issues and monitor progress toward climate-related goals; 4) To review and approve the company's TCFD annual report.
ESG work councils	administration	The chairman of the board of directors shall be the director, and the secretary of the board of directors shall serve as the deputy director. Other members include the heads of relevant functions, BG and BU	1) Establish management objectives, policies, and implementation pathways for climate change; 2) Identify and assess ESG-related risks and opportunities (including climate change); 3) Develop ESG management systems and operational workflows; 4) Formulate ESG action plans and evaluate progress; 5) Conduct preliminary reviews of ESG reports and submit them to the Board of Directors for approval; 6) Oversee other ESG-related corporate matters
ESG Executive Group	executive agent	It is composed of ESG contacts from relevant functions, BG and BU. The specific composition of personnel shall be designated by the heads of relevant functions, BG and BU	1) Conduct internal and external significance assessments; 2) Prepare the company's annual ESG report; 3) Identify and evaluate ESG-related risks and opportunities (including climate change); 4) Assess gaps between the company's ESG practices (including climate change) and the standards of the Shenzhen Stock Exchange and Hong Kong Stock Exchange, as well as best practices from leading peers, develop improvement plans, and implement them; 5) Execute annual work tasks in line with ESG management objectives (including climate change); 6) Implement resolutions from the ESG Committee and complete other assigned tasks.

4.3. Climate-related Risk Strategy of Vanke Co., LTD

Under the dual-carbon context, Wanke has established policy frameworks to refine climate risk management processes. By leveraging operational expertise, the company provides integrated technical solutions for carbon-neutral city development, aiming to build resilient communities and social networks that effectively combat climate impacts. Guided by scientifically defined carbon neutrality targets, Wanke implements practices across clean energy, green architecture, carbon asset management, low-carbon transportation, resource recycling, and sustainable lifestyles. The company delivers comprehensive low-carbon solutions spanning planning to operation for buildings, industrial parks, and residential communities, positioning itself as a pioneer in urban carbon neutrality initiatives.

4.4. Climate-related Risk Management of Vanke Co., LTD

To maintain reporting consistency, Vanke continues to use the IPCC's Representative Concentration Pathways 8.5 (RCP 8.5) scenario and the Central Bank and Regulators' Greening the Financial System Network (NGFS) 's Hot House World scenario as benchmarks for climate analysis and comparison. Moving forward, Vanke plans to incorporate the Intergovernmental Panel on Climate Change (IPCC)' s Shared Socio-Economic Development Pathways (SSPs) into these scenarios, enabling comprehensive analysis of future climate impacts, adaptation strategies, and mitigation efforts.

Table 5. Scenario analysis of risks

	Substance risks	Transition risk
Scenario name	IPCC-RCP8.5	NGFS-The greenhouse world
Potential heating	~4℃	>3℃
Scenario description	In the absence of major new policies, economic growth and technological progress remain largely dependent on fossil fuels and businesses continue to emit large amounts of greenhouse gases. This scenario is expected to lead to a global temperature rise of 4 C by 2100.	The scenario is based on existing specific policies and those already announced by governments around the world, and even falls short of current nationally determined contributions (NDC) targets.
Situation and circumstances	Tropical cyclones have a global impact, with China being one of the countries most severely affected by cyclonic and storm surge disasters. The annual average losses from river floods continue to rise and may worsen as climate change intensifies. Rising sea levels, coastal flooding, storm surges, and coastal erosion threaten low-lying, densely populated cities along China's coast. Meanwhile, northern and western inland provinces face increasingly frequent extreme heatwaves and droughts, exacerbating water security risks.	Under this scenario, global greenhouse gas emissions would increase to 2080 levels, leading to approximately 3℃ of global warming and irreversible changes such as rising sea levels. This scenario is considered the "Hot Room" scenario, characterized by high physical risks and low transition risks.

In 2023, Vanke optimized its climate change management framework by aligning with the ISSB and Hong Kong Stock Exchange's climate risk classifications from 2022. The company required eleven key departments to conduct comprehensive reviews of their 2023 climate risk management progress. Through scenario analysis and policy mapping, they identified 12 transition risks and 10 operational risks, compiling a formal climate risk inventory. After internal and external evaluations, seven high-risk items were pinpointed based on both

likelihood and impact severity. This helped establish prioritized adaptation/mitigation plans, prompting business model adjustments and enhanced management capabilities. Building on the 2022-identified climate-related risks and opportunities, Vanke conducted resilience analyses for these seven high-risk areas, updated response measures, and refined its climate risk management mechanisms.

4.5. Climate-related Indicators and Targets of Vanke Co., LTD

Table 6. Indicators

Indicators	Unit
Total energy consumption	ton of standard coal equivalent
Energy consumption density	Real estate development, property services, logistics and warehousing, hotels and resorts: Tons of standard coal/million revenue
Greenhouse gas emissions (categories 1 and 2)	Tons of carbon dioxide equivalent
Greenhouse gas emissions (category 3)	Tons of carbon dioxide equivalent
Add the area that meets the green building evaluation standards	10,000 square meters
Number of new ultra-low energy, near-zero energy or low-carbon demonstration projects in 2021-2023	a
The proportion of materials purchased from white list suppliers through Green Chain Action	%

Vanke has established the following short-term objectives: driving green and low-carbon transitions across its business groups (BGs) and business units (BUs), improving energy efficiency, and reducing carbon emissions. In real estate development, using 2021 as the baseline year, the company aims to complete certification for five ultra-low energy consumption, near-zero energy consumption, or low-carbon demonstration projects by 2025. Commercial and office projects adopting centralized cooling systems will reduce cooling energy consumption by 10% compared to 2020 standards by 2025. For logistics and warehousing, refrigeration energy consumption will serve as a key indicator for evaluating park power usage, with cold storage energy consumption targets reduced by 5% in 2023 compared to 2022. In commercial development and operations, Yinli Group plans to achieve a 6% reduction in total public area electricity consumption across 20 malls by 2025 compared to 2021 levels. Additionally, at least 18 of its malls will implement photovoltaic power generation by 2025, contributing 2% to their public area electricity needs. The company intends to further expand photovoltaic applications. It aims to peak total Scope 1 and 2 carbon emissions by 2030 or earlier, and achieve full carbon neutrality in Scope 1 and 2 emissions by 2060 or earlier.

5. Conclusion and Suggestions

5.1. Conclusion

5.1.1. The Governance Mechanism Has been Initially Established, but Supervision and Implementation Need to Be Further Refined

Vanke has established an ESG governance framework at the board level and clarified the responsibilities of management in climate risk management, demonstrating its commitment to addressing climate issues. However, its disclosures regarding routine monitoring of climate-related risks, performance evaluations, and incentive mechanisms remain relatively vague, lacking concrete implementation details.

5.1.2. Strategic Planning is Forward-Looking, but Scenario Analysis and Financial Relevance are Not Disclosed

Vanke has demonstrated clear strategic direction in setting carbon neutrality targets and promoting green buildings. However, its disclosures remain insufficient regarding climate scenario analysis and the short-, medium-, and long-term impacts of climate risks and opportunities on financial performance, failing to fully meet the TCFD disclosure requirements for "strategic resilience".

5.1.3. The Risk Management System is Relatively Perfect, but the Integration and Transparency Need to Be Improved

Vanke has preliminarily incorporated climate risks into its corporate risk management framework and has taken steps to identify physical and transition risks. However, insufficient disclosure regarding its risk assessment methodologies, risk prioritization logic, and integration mechanisms with overall risk management has hindered stakeholders' comprehensive understanding of the company's risk response capabilities.

5.2. Suggestions

It is recommended that enterprises further refine the specific responsibilities of boards and management in climate risk management, establish incentive mechanisms linking climate performance to executive compensation, and enhance governance effectiveness and transparency. Companies should actively conduct climate scenario analysis to clarify how climate risks impact financial status, cash flow, and corporate value under different scenarios, with detailed disclosures in reports to improve the decision-usefulness of strategic information. Establish more structured climate risk identification and assessment processes, define risk prioritization criteria, and fully integrate climate risks into existing risk management systems to strengthen disclosure transparency and consistency. Enterprises should accelerate the development of carbon accounting systems covering three major emissions to drive low-carbon supply chain transformation. Simultaneously, enhance data collection and calculation standards by actively introducing third-party verification to boost the credibility and comparability of disclosed data. Regulatory authorities are advised to clarify alignment pathways between China's Basic Standards and international benchmarks like TCFD and ISSB, providing clear disclosure guidance for enterprises. Industry associations could lead the formulation of industry-specific disclosure guidelines to facilitate more precise and comparable climate information disclosure in high-emission sectors such as real estate.

Acknowledgments

This paper is the phased achievement of high quality course construction project in Sichuan University of Science & Engineering (YZ202107).

References

- [1] Huang Shizhong. Analysis of Three Major Sustainability Information Disclosure Frameworks [J]. Accounting Monthly, 2025,46(11):3-13.
- [2] Zhang Ruichen and Zhao Weihao. Corporate ESG Performance Under Climate Risk Pressure [J]. Journal of Wuyi University, 2025,44(05):54-63.
- [3] Ma Bing and Zhang Yan. Mandatory Carbon Emission Disclosure and Framework Construction in Chinese Enterprises [J]. Journal of Business Accounting, 2020(01):60-64.
- [4] Lu Haiyan, Xue Shuping, and Zhang Yajing. A Study on Sustainability Reporting Disclosure Based on the TCFD Framework-- Using Longi Green Energy Technology Co., Ltd. as a Case [J]. Accounting Communications, 2025(06):99-105.

- [5] Zhang Duolei, Kou Ruxiang, Zhu Mengxuan. Climate Risk Accounting Information Disclosure, Investor Confidence and Debt Financing Costs [J]. Journal of Jilin Technology and Business University, 2025,41(02):49-56+128.
- [6] Mago. Research on Climate Information Disclosure Optimization of Industrial and Commercial Bank of China Based on TCFD Framework [D]. Lanzhou University of Finance and Economics, 2024.
- [7] Yang Chenhui. Corporate Climate Information Disclosure: A Standardized Framework [J]. Environmental Economics, 2025(07):56-61.
- [8] Li Leyan. Research on Climate Information Disclosure Optimization in Cement Industry under TCFD Framework [D]. Guangdong University of Foreign Studies, 2024.
- [9] Liu Ying. Research on the Application of ESG System and Green Finance Development [D]. China Central Depository & Clearing Co., Ltd., 2024.
- [10] Li Wenqi, Niu Jianmin, Hao Tiantian. Research on the Impact of Climate Change on Corporate Performance -- An Empirical Study Based on Listed Companies [J]. Henan Science and Technology, 2024,51(20):95-103.
- [11] Deng Jieli and Li Xinyu. Building a Carbon Account System in the Banking Sector Based on the TCFD Framework [J]. Modern Commercial Bank, 2023(17):22-25.
- [12] Zhang Duolei and Yuan Li. Climate Risk Disclosure and Corporate Green Innovation [J]. Journal of Jilin Technology and Business University, 2024,40(03):70-77.
- [13] Rao Shuling, Liu Yujun, Cao Yuqian. Comparative Analysis of International Mainstream Sustainable Information Disclosure Standards: A Series Article on Agricultural Transition Finance [J]. Economic Guide to Sustainable Development, 2023(07):27-31.
- [14] Yang Yiding. International Comparison and Reference of ESG Information Disclosure Regulation [J]. Accounting & Finance Communications, 2024(5):150-155.
- [15] Zhang Xiaofang. Research on the Mandatory Climate Information Disclosure System [D]. South China University of Technology, 2023.
- [16] Wu Wei and Jia Qirong. Climate-related Financial Disclosure Framework Interpretation and Chinese Financial Institutions' Practices [J]. Modern Finance Journal, 2020(2):38-43.
- [17] Li Yanan. A Practical Study on Environmental Information Disclosure in Chinese Financial Institutions under the TCFD Framework [J]. Finance & Economics, 2022(7):58-64.
- [18] Tian Rui and Tian Cuixiang. Current Status and Recommendations for Environmental Information Disclosure by Financial Institutions under the TCFD Framework [J]. Finance & Finance, 2022(4):15-19.
- [19] Zhao Yingke. Evaluating Corporate Carbon Disclosure Quality Based on TCFD's Four Pillars--- Using BYD Co., Ltd.' s 2018 Information Disclosure as a Case Study [J]. Modern Business, 2020(15):128-129.
- [20] Zhang Jingyi, Shao Danqing, Li Jing, et al. Research on Climate Information Disclosure in China's High-Carbon Industries: A Case Study of the Real Estate Sector [J]. Modern Finance Journal, 2021(9):22-28.
- [21] Cao Guojun. New Developments in Climate-related Financial Information Disclosure [J]. Journal of Financial Accounting, 2023(03):28-34
- [22] Xu Yang, Feng Yaxian, and Zhang Dan. Climate-related Financial Information Disclosure in Agricultural Listed Companies -- Based on the TCFD Framework [J]. Accounting Communications, 2022, (18):24-27.
- [23] Bernstein, A., Gustafson, M. T., & Lewis, R. Disaster on the horizon: The price effect of sea level rise[J]. Journal of Financial Economics, 134(2), 253-272. Huang Shizhong. A Model Implementation of the TCFD Framework--- Case Study on Microsoft's Climate Information Disclosure [J]. Journal of Financial Research, 2022(3):10-18.