

# Research on the Transformation Strategies of Energy Enterprises under the ESG Concept

Molin Sun\*

School of Economics, Shanxi University of Finance and Economics, Taiyuan, Shanxi, 030000, China

\*xiaoban@sxufe.edu.cn

## Abstract

This work investigates the impact of Environmental, Social, and Governance (ESG) strategies on the performance of energy companies, particularly in the context of China's "dual carbon" goals and the global shift towards sustainable development. By employing a case study approach, the paper analyzes three Chinese energy companies with varying ESG ratings. Through a comparative analysis of their ESG practices and financial performance, the study identifies three key pathways through which ESG strategies influence corporate performance: the Innovation Compensation Effect, the Policy Multiplier Effect, and the Risk Penalty Effect. The research demonstrates a positive correlation between ESG ratings and financial performance, suggesting that companies with strong ESG practices tend to achieve higher ROA, revenue growth, and gross profit margins. Furthermore, the paper explores the mediating role of corporate reputation in this relationship. The analysis reveals that ESG initiatives contribute to building a positive reputation, which in turn attracts investors, lowers financing costs, and enhances overall performance. The case studies illustrate the diverse approaches taken by the companies to integrate ESG principles into their operations, highlighting the importance of a comprehensive and strategic approach to ESG implementation. This research underscores the significance of ESG integration as a crucial driver for the transformation and sustainable development of energy companies. The findings offer valuable insights for policymakers, investors, and industry stakeholders seeking to navigate the energy transition and promote responsible business practices. Further research is encouraged to explore the role of technological innovation and policy mechanisms in fostering ESG adoption and enhancing corporate performance in the energy sector.

## Keywords

Energy Companies; ESG; Enterprise Transformation; Strategy Research.

## 1. Introduction

Promoting high-quality economic development is of paramount importance for building a modern socialist country, carrying significant theoretical and practical implications. After more than three decades of rapid growth following the reform and opening-up policy, China has transformed from a poverty-stricken agrarian nation into the world's second-largest economy, wielding considerable influence in the global economic arena. However, this high-speed economic growth has also brought about structural economic issues and environmental challenges. Problems such as imbalanced industrial structures, low levels of technological innovation, and uneven regional development have severely constrained further economic progress in China. With the acceleration of globalization and the growing prominence of environmental issues, sustainable development has become a focal point of global attention.

Against this backdrop, the ESG (Environmental, Social, and Governance) concept has gradually evolved from a corporate social responsibility framework into a critical factor influencing corporate core competitiveness. The energy sector, as a foundational industry for the global economy, is not only a primary source of greenhouse gas emissions but also a key area for achieving low-carbon transformation. However, energy companies currently face numerous challenges in technological upgrading, green transformation, and corporate social responsibility fulfillment. How to guide strategic adjustments and policy optimization in energy enterprises through the ESG concept has become a key topic in both academic and practical fields.

The global energy transition is reshaping the global energy system through systemic changes, with an overall trend toward the replacement of clean energy, decarbonization of end-use energy, and restructuring of the energy system. Global carbon neutrality commitments and carbon pricing are becoming "institutional forces," while mechanisms such as the EU's Carbon Border Adjustment Mechanism are reshaping global trade patterns. However, the global energy transition faces a complex array of issues. Shortcomings in technology and funding have made energy equity problems more pronounced in developing countries during their energy transition. Uncertainties in the supply of critical mineral resources have increased resource and environmental risks, while the transitional pains of traditional energy-dependent countries and the emerging paradox of clean energy technologies are overlapping. Countries must balance and coordinate across multiple dimensions, including technological progress, industrial structure, and social and environmental factors. This process is not only a journey toward achieving climate goals but also one of reversing global socioeconomic development patterns [1].

This paper primarily adopts a case study approach, selecting three energy companies with different ESG ratings from the Wind database. By analyzing the strategies and behaviors of these enterprises, it examines the changes in their ESG scores and performance, investigates the impact of different ESG strategies on corporate performance, and explores the transmission mechanisms through which ESG strategies affect corporate performance. The study thereby demonstrates the importance of the ESG concept in the development of energy enterprises. Additionally, the paper analyzes the influence of ESG ratings on corporate reputation and their relationship with corporate performance. Based on the findings, it proposes theoretical foundations for leveraging the ESG concept to advance the transformation and development of energy enterprises.

## 2. Literature Review

ESG stands for Environmental, Social, and Governance, representing the responsibilities and performance of a company towards sustainable development in its operations. Environmentally, it refers to how a company manages its relationship with the environment, including reducing carbon dioxide emissions, conserving resources, and preventing pollution. Socially, it pertains to the company's efforts in promoting social development and fulfilling its social responsibilities. Governance focuses on the company's management structure and decision-making mechanisms, reflecting whether its management and decision-making are efficient, transparent, and compliant. Peng Manru et al. argue that ESG is an investment philosophy and non-financial evaluation standard that focuses on a company's overall performance in environmental, social, and corporate governance aspects [2]. It measures the company's sustainable development capabilities, guiding corporate objectives from short-term self-interest pursuits to long-term social value creation, aligning with the nation's requirement for high-quality economic development. ESG not only helps investors assess a company's long-term value and risks but is also a key factor in encouraging companies to adopt more rational

and effective business strategies to achieve social and environmental goals beyond economic objectives [3].

Against the backdrop of the global economy transitioning towards sustainable development, ESG has gradually become one of the key drivers of continuous economic growth. High-quality corporate development typically refers to the efficiency, innovation, sustainability, and social responsibility achieved in a company's operations. Yan Weixiang et al. believe that a company's ESG performance has a significant positive impact on the financial performance of listed companies, making notable contributions in areas such as corporate financing, enhancing innovation capabilities, and improving efficiency [4]. At the same time, the influence of ESG on companies can vary depending on their type, with significant differences in the effects of ESG across different company types. Han Yiming et al. also argue that introducing ESG can alleviate corporate financing constraints, improve supply chain stability, and increase research and development investments, thereby supporting high-quality corporate development [5]. They also note that the type of company and its geographical location can affect the effectiveness of ESG. Wang Jianxin identifies four pathways through which ESG enhances corporate performance: alleviating corporate financing constraints, reducing corporate agency costs, improving corporate reputation, and enhancing the quality of corporate information disclosure [6]. These four pathways collectively contribute to the role of ESG in corporate upgrading. Additionally, he argues that there is a complementary and substitutive relationship between external governance oversight tools and third-party ESG evaluations. Research also indicates that the uncertainty and relatively ambiguous signals of ESG ratings affect the effectiveness of ESG within companies, thereby reducing its positive impact on high-quality corporate development and hindering such progress.

In summary, we observe that the ESG evaluation system, which focuses on environmental, social, and governance performance, centers on measuring a company's sustainable development capabilities. Its direction aligns with the current strategic goal of high-quality and sustainable corporate development, positively guiding and promoting corporate performance. However, we also find that existing research has certain gaps, such as a lack of study on internal management mechanisms. There is limited research on how internal management mechanisms and organizational structures within companies influence the effectiveness of ESG practices, and insufficient analysis of the organic integration of domestic corporate internal governance strategies with ESG strategies. Most existing research examines the overall impact of ESG on companies, but given the uneven economic development levels across regions in China and the varying performances of regional companies, as well as the significant differences in ESG challenges and opportunities faced by companies in different industries, current research often applies a one-size-fits-all approach without adequately analyzing the specificities of local and industry contexts.

### **3. ESG-related Theoretical Analysis and Research Design**

#### **3.1. Theoretical Analysis**

##### **3.1.1. Mechanisms of the Impact of ESG Dimensions on Corporate Performance.**

**Environmental (E) Dimension:** Investors tend to support companies with strong environmental performance and a focus on sustainability. By enhancing their environmental performance, companies can improve the external market's perception of them, fostering trust in their governance capabilities and production levels, and recognition of their long-term operational stability and social responsibility. This can attract more capital, making it easier to obtain low-cost loans and issue bonds. For consumers, as public environmental awareness increases, they are more willing to purchase products from companies with environmental features and a good

brand reputation. Optimizing environmental performance can win consumer recognition, thereby driving revenue growth.

**Social (S) Dimension:** In terms of social aspects, good social management (such as fair wages and benefits, and a healthy and safe work environment) can improve employee relations, reduce turnover and training costs, and thus enhance company productivity. Additionally, companies with a high sense of social responsibility tend to have stronger long-term operational continuity and are more likely to gain market recognition, making them ideal potential investors. By undertaking social responsibility-related initiatives, companies can gain public recognition, enhance their reputation and social standing, and secure more collaboration opportunities and market share.

**Governance (G) Dimension:** From the perspectives of policy and governance, improving a company's ESG performance can bring policy benefits, mitigate business risks, and enhance long-term stability and corporate reputation. Companies that proactively address environmental and social issues are more likely to receive government incentives and subsidies. On the other hand, it can prompt companies to refine their governance structures, improve efficiency, build a good reputation, and achieve higher financial returns [7, 8].

Hypothesis 1: The application of ESG strategies can enhance corporate performance.

### **3.1.2. Theoretical Analysis of the Impact of ESG Policies on Corporate Reputation.**

Good ESG performance systematically reshapes and optimizes a company's risk structure, resource efficiency, and value creation pathways, forming a closed-loop logic of "reputation accumulation - resource integration - performance improvement." Environmentally, by reducing carbon emissions, optimizing resource utilization, and promoting clean technologies, companies lower environmental regulatory risks and compliance costs while shaping a responsible corporate image. This enhances their market reputation, increases market influence, attracts consumers who prioritize sustainable consumption, and improves product premium capabilities and market share. Socially, by practicing ESG, companies can improve employee welfare, supply chain fairness, and community development, thereby enhancing their social evaluation. This effectively reduces corporate-level risks such as labor disputes and supply chain disruptions. By building trust with stakeholders, companies can improve their external environment, reduce social transaction costs, increase customer loyalty, and enhance employee performance, all of which directly translate into corporate performance. At the corporate governance level, information disclosure, anti-corruption measures, and board diversity, on the one hand, reduce corporate financing costs-the higher the ESG rating, the lower the financing costs. On the other hand, investors' perception of long-term stability increases, leading to higher valuation premiums. At the corporate strategy level, when ESG becomes part of the corporate strategy, the attributes of corporate reputation capital can be transformed into policy benefits such as green consumer preferences, tax incentives, and project approvals. This enhances corporate reputation in the market, reduces financing costs, improves product innovation capabilities, increases process efficiency, and lowers costs. Therefore, the three characteristics of ESG reputation assets-reducing costs (comprehensive benefit-risk), expanding market share (entering new markets), and improving resource efficiency (increasing resource conversion rates)-through three means-revenue levels, profit levels, and capital levels-create a continuous performance enhancement effect.

Hypothesis 2: The application of ESG policies can enhance corporate reputation, serving as a mediating variable to improve corporate performance.

## **3.2. Research Design**

The research data are selected from the ESG rating system of the Wind Financial Database. This system, tailored to the current state of China's capital market, regulatory policies, and corporate practices, has established a localized evaluation framework encompassing three dimensions:

Environment (E), Social (S), and Governance (G). Through a quantitative model, companies are classified into nine levels from CCC to AAA, from low to high. The data possess three core advantages: objectivity, industry relevance, and dynamic traceability.

In this case study, the selected companies are leading enterprises in the wind power, photovoltaic, and traditional energy sectors, with ESG ratings covering AA (high score), BBB to AA (low to high transition), and BBB (low score) – three distinct and significantly different levels [9]. The study ensures that financial and ESG indicators for these companies are available for three consecutive years, and that they have clear implementation paths for their ESG strategies. Ultimately, Jinko Solar (AA rating), Longyuan Power (BBB rating transitioning to AA), and a coal enterprise (BBB rating) were chosen as the analysis subjects, with their basic characteristics presented in Table 1. The comparison of these three companies provides an ideal sample for exploring the differential impacts of ESG strategies [10].

**Table 1.** Basic Information and ESG Rating Overview of Case Companies

Company Name	Main Business	ESG Rating	Environment (E) Score	Social (S) Score	Governance (G) Score	Workforce Size
Jinko Solar	Photovoltaic module manufacturing	AA	8.53	8.13	6.90	23000
Longyuan Power	Wind/PV investment and operation	BBB to AA	8.19	8.56	6.55	8500
A Coal Enterprise	Coal mining and sales	BBB	4.82	4.47	5.28	36000

### 3.3. Case Company Analysis

#### 3.3.1. Case Analysis of a High-Rated Company: Jinko Solar (AA Rating)

In the environmental dimension (E), the company invested 2.3 billion yuan in developing new technologies, significantly improving production efficiency. Through the construction of a “zero-carbon supply chain,” the group’s green electricity usage ratio exceeded 50%, and four subsidiaries obtained “zero-carbon factory” certifications. The company also became the first Chinese photovoltaic enterprise globally to pass the review of the three major targets of the Science Based Targets initiative (SBTi). In the social dimension (S), the company established photovoltaic poverty alleviation power stations covering 27 provinces, benefiting 500,000 rural households cumulatively. It creatively implemented the “Seedling Program,” training over 3,000 technical workers for its supply chain and promoting employment for local residents. Additionally, it set a “green access threshold” in supply chain management, requiring core suppliers to reduce carbon emission intensity by 18% by 2025. In the governance dimension (G), the company’s board of directors established an ESG Committee to directly supervise the sustainable development strategy. It built a “three-in-one” disclosure system consisting of annual reports, ESG reports, and interim announcements, systematically and comprehensively disclosing ESG information to the public. Furthermore, executive compensation is linked to ESG indicators, with ESG accounting for 30% of executive pay, directly tied to carbon reduction targets.

As shown in the table, Jinko Solar achieved an asset return on assets (ROA) of 8.9% from 2020 to 2024, significantly outperforming the industry average of 5.3%. Its compound annual revenue growth rate was 34.7%, 12.2 percentage points higher than the industry average, demonstrating strong growth momentum. The gross profit margin was 5.4 percentage points

above the industry average, reflecting outstanding profitability. Meanwhile, its financing costs were lower than the industry average, indicating favorable external conditions for the company's development and excellent performance in financial cost control. This suggests that the company's leading ESG strategy has significantly enhanced its performance.

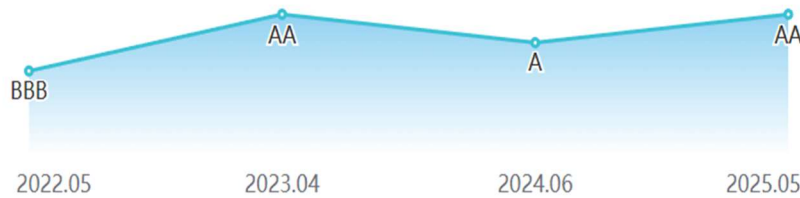
**Table 2.** Performance Comparison of Jinko Solar and the Photovoltaic Industry (2020-2024)[11]

Indicator	Company	Industry Average	advantage
ROA(%)	8.9	5.3	+3.6%
Revenue CAGR (%)	34.7%	22.5%	+12.2%
Gross Profit Margin (%)	21.8%	16.4%	+5.4%
Financing Cost (%)	3.2%	5.7%	-2.5%

### 3.3.2. Mid-Rated Company Transformation Practice: Longyuan Power (BBB Rating Transitioning to AA)

In the environmental dimension (E), Longyuan Power, a subsidiary of the State Power Investment Corporation, has advanced its ESG transformation through the “new energy + ecological restoration” model. Its “Tengger Desert Base Project in Ningxia” is a distinctive practice under its ESG philosophy and was selected for the “Annual ESG Outstanding Practice Report.” The project adopts a “panel power generation, inter-panel planting, and panel-under restoration” integrated approach, laying photovoltaic arrays across 26,000 mu of desert land while planting drought-resistant crops. This has increased local vegetation coverage from less than 5% to 38% and boosted power generation efficiency by 10%. In the social dimension (S), the “Tengger Desert Base Project” employed local herders for operation and maintenance, increasing their income while creating a photovoltaic tourism and study route to drive the development of the surrounding tertiary industry, generating nearly 10 million yuan in annual revenue. Additionally, the company established a “Green Electricity Welfare” fund, allocating 1.5% of the project's revenue to build community health stations, effectively improving the living standards of local residents. However, in the governance dimension (G), although the company has established an ESG risk checklist covering 27 material issues, it lacks a dedicated management department, leading to internal management disorganization. Data disclosure is primarily focused on environmental aspects, with insufficient quantitative indicators for the social dimension (e.g., missing training hours for employees, supply chain audit ratios, etc.). The economic advantages of the company's ESG projects are prominent. By saving land costs and benefiting from policy subsidies, the project's internal rate of return reached 12.6%, 2.6 percentage points higher than the industry average. It also contributes to an annual carbon dioxide reduction of 1.5 million tons, with pre-signed sales in the carbon market expected to generate 40 to 50 million yuan in revenue for the company. However, the company's internal management structure has flaws, with ESG functions being too fragmented, leading to delayed and non-compliant disclosures. There are also certain digitalization shortcomings. In recent years, Longyuan Power has achieved success through three years of continuous governance. It implemented a “dual-entry and cross-positioning” leadership system, clarified authority and responsibility boundaries, and established a corporate governance mechanism characterized by “legally defined, publicly disclosed, coordinated operation, and effective checks and balances.” This resolved issues of internal management disorder, fragmented ESG functions, and digitalization gaps. The company developed and built a digital quality control platform for new energy projects, addressing the lag in data collection and achieving standardized and intelligent management of project acceptance. From a regulatory perspective, it has also achieved certain results. The company established a Safety Committee and an Ecological Environmental Protection Leadership Group, regularly convening safety meetings. Through top-down supervision, it has promoted the scientific, standardized, and modernized

management of the company. Through these governance efforts, it has successfully become a new energy demonstration enterprise, receiving multiple accolades from the industry and government.



**Figure 1.** Longyuan Power's ESG Rating Trend

Following the aforementioned governance improvements, the company's governance dimension score has shown a significant increase over the past three years. Its overall rating has improved from BBB in May 2022 to AA in May 2025, reflecting the achievements of the company's efforts to enhance its governance level. At the same time, this phenomenon demonstrates that ESG rating data accurately identified the company's shortcomings in the current environment and reflected them through the ESG rating metric, guiding the company to address these issues and facilitating further development. This highlights the scientific nature, timeliness, and rigor of ESG ratings.

### 3.3.3. Comparative Study of Low-Rated Companies: A Coal Company (BBB Rating)

At the environmental level (E), the company's environmental management was inadequate. Its water content rate per ton of coal was 15%, compared to the advanced industry standard of 8%, and its carbon emissions during transportation were high. The mine water recycling rate was 40%, significantly lower than the national standard of 65%. In 2024, the company was fined 23 million yuan, leading to a downgrade in its ESG rating.

At the social dimension (S), the company faced extremely high social risk accumulation. When mines were closed, 1,200 company employees were not relocated, triggering incidents of collective employee rights protection, which negatively impacted the ESG evaluation. Community investment accounted for only 0.3% of profits (the industry average was 1.2%). The supply chain bidding mechanism heavily favored "lowest price wins," leading to frequent safety accidents among contractors.

At the governance dimension (G), the company exhibited obvious formalism in its governance processes. Although it published an ESG report, most of its content was qualitative, with significant omissions in key indicators, raising concerns about reliability and authenticity. Key indicators such as "mortality rate per million tons" and "occupational disease incidence rate among employees" were missing. The proportion of independent directors was 33%, failing to meet the State-owned Assets Supervision and Administration Commission's (SASAC) requirement of 50%.

The company incurred environmental fines and shutdown losses totaling 380 million yuan in 2024, accounting for 28% of its net profit, severely impacting its profitability. Additionally, due to its low ESG rating, it was removed from the investment whitelist by relevant institutions, causing its financing costs to rise to 7.9%. As mentioned earlier, the company with an AA rating, JinkoSolar, had a financing cost of only 3.2%, which clearly demonstrates the severe negative impact of this factor on corporate performance. Furthermore, the company faced policy resource exclusion; due to its low ESG rating, it could not obtain the "Clean Coal Utilization Loan" policy (missing out on a 1.5 billion yuan low-interest loan) and could not obtain new approvals due to failing to meet the "Green Mine" standards, resulting in restrictions on mining

rights. The company's Tobin's Q ratio was only 0.62, while the industry average was 0.98, indicating that investors believe the company has extremely poor potential for transformation. Therefore, it is clear that the company's lack of ESG management has led to a significant internalization of negative externalities, placing the company in a vicious cycle. Notably, the company did implement some improvements in its governance dimension. In 2024, it linked emission reduction targets to executive compensation through an "ESG Performance Contract," achieving an 8% reduction in coal consumption per ton. However, due to the lack of systemic reform, its Wind ESG rating remained at BBB, also validating the industry experience that "reform in one aspect is insufficient to improve the rating."

## 4. Conclusion and Analysis

### 4.1. The Performance Impact Mechanism of ESG Rating Differentiation

Based on the comparative analysis of the three companies, it can be observed that ESG strategies influence corporate performance through three distinct pathways:

**Innovation Compensation Effect:** Technology-leading companies convert ESG investments into a "green premium." By driving development through technological innovation, continuously upgrading technology to produce high-efficiency products, and obtaining excess returns through these products and low-carbon branding, companies achieve this effect. Data reveals that under this pathway, each one-level improvement in ESG rating is associated with an average increase of 1.2 percentage points in ROA. This clearly demonstrates the path where technological progress drives improvements in ESG ratings, thereby enhancing corporate performance.

**Policy Multiplier Effect:** Some central state-owned enterprises leverage national strategic projects. By participating in these projects, they integrate ESG requirements with policy resources, promote regional development, and thereby secure preferential support such as land and tax incentives, aiming to enhance corporate performance. However, some companies have weaknesses in their governance processes, which affect the efficiency of realizing these benefits.

**Risk Penalty Effect:** Some companies lack effective ESG management, leading to a surge in penalty costs and severely restricted financing channels. This creates a vicious cycle: poor management leads to penalties, which lowers the ESG rating, further impacting financing channels, and ultimately hindering corporate performance, making it difficult for the company to transform.

Based on these pathways, we can conclude that the differentiated application of corporate ESG strategies affects corporate performance, proving Hypothesis 1.

### 4.2. The Relationship Between ESG Rating's Impact on Corporate Reputation and Corporate Performance

Additionally, analyzing the three company cases reveals that: Company 1 (JinkoSolar) built a strong reputation through its sound environmental strategy, good social responsibility, and transparent governance mechanisms. In global media reports in 2024, 83% mentioned ESG-related terms such as "zero-carbon factory" and "N-type technology," 31% higher than the industry average. It was also reported as the "benchmark for Chinese ESG overseas expansion," driving its foreign shareholding ratio from 11.2% in 2023 to 18.7%. Concurrently, its financing costs decreased to 3.2%, 2.5% lower than the industry average. Company 2 (Longyuan Power) saw its "Tengger Desert Project" featured in a special report on CCTV's "Focus Interview", boosting the proportion of positive ESG-related public opinion to 67%. The local government designated it as an "ecological governance demonstration unit," and its approval speed for new projects increased by 40% in 2024, reflecting the positive impact of government promotion and

support on its performance. Company 3 (the coal company) faced significant negative impacts on its performance in social recruitment and financing due to violations, worker collective rights protection incidents, fines, and removal from the investment whitelist.

From this, we can deduce the mechanism that "ESG investment influences corporate reputation, which in turn affects corporate performance," proving Hypothesis 2.

### 4.3. The Impact of ESG on the Transformation of Energy Companies

Through case analysis, we find that the ESG concept not only enhances corporate financial performance but also guides the transformation and development of energy companies. The ESG concept encourages companies to focus on environmental and social governance issues, promoting greater emphasis on clean energy transition, improving energy efficiency, and participating in social public welfare initiatives. Company 1, JinkoSolar's ESG initiatives like the "Zero-Carbon Production Chain" and the "Seedling Program" not only improved its financial performance but also guided its transformation. Company 2, Longyuan Power, achieved project benefits through the "new energy + ecological restoration" model, improved the local ecological environment, and promoted sustainable corporate development. Company 3, the coal company, due to its lack of ESG management, fell into a crisis and was unable to transform or upgrade.

## 5. Summary and Outlook

In summary, through the study of three typical energy companies with different ESG ratings, this paper concludes that corporate ESG integration is a necessary condition for addressing climate change and also an important channel for energy companies to seize opportunities and gain advantages in the new era. Good policy systems, effective stakeholder relationship management, information disclosure and third-party assessment, and long-term sustainable capacity building are conducive to promoting corporate green development and enhancing its social and market competitiveness. Future research should focus more on how technological development drives corporate transformation and innovation, such as the application of artificial intelligence and big data technologies in carbon emission monitoring and energy enterprise management. At the government level, more consideration should be given to how innovative policies and market mechanisms can stimulate the intrinsic motivation of enterprises, further promoting the deep integration of ESG concepts within companies, providing strong impetus for corporate development and transformation, and boosting the transformation and innovation of energy companies to better align with the principles of sustainable development and the requirements of the modern market, thereby effectively enhancing corporate performance.

## References

- [1] Jin, Q., Xin, Z. (2025) Research on the Impact of Tencent's ESG Performance on Corporate Performance. *World Economic Exploration*. 14(2): 201-212.
- [2] Peng, M., Chen, J., Yin, J. (2023) ESG Performance, Innovation Capability, and Corporate Performance. *Friend of Accounting*. 7: 11-17.
- [3] Qi, W., Liang, J. (2024) Analysis of the Impact of Corporate ESG Performance: A Literature Review Based on Corporate Value, Financing Costs, and Financial Performance. *Journal of Lanzhou University of Finance and Economics*. 06: 109-120.
- [4] Yan, W., Zhao, Y., Meng, D. (2023) Research on the Impact of ESG Ratings on the Financial Performance of Listed Companies. *Journal of Nanjing Audit University*. 06: 71-80.
- [5] Han, Y., Hu, J., Yu, X. (2024) Can Strengthening ESG Practices Promote High-Quality Development of Enterprises? Evidence from Chinese Listed Companies. *Review of Industrial Economics*. 01: 21-40.
- [6] Wang, J. (2023) ESG Performance and Corporate Upgrading. *Financial Research*. 11: 132-152.

- [7] Cheng, F. (2025) The Impact of ESG Performance on Corporate Value in the Context of the Dual Carbon Goals. *Modern Business*. 2025(01): 71-74.
- [8] Cheng, M. (2024) Research on the Impact of ESG Performance on Corporate Financial Performance. *Finance and Finance*. 3: 51-57.
- [9] Wind Information Co., Ltd. (2024) Wind ESG Rating Methodology (2024 Edition). <https://www.wind.com.cn/portal/zh/ESG/esgRating.html>.
- [10] Wind Information Co., Ltd. (2024) Panel Data Set of A-share Energy Listed Companies from 2015 to 2024. <https://esg.wind.com.cn/WindESGRating/index.html?lan=cn#/ESGSummary>.
- [11] Wind Information Co., Ltd. (2024) ESG Scores and Financial Indicators of Jinko Solar (601778.SH) and Longyuan Power (001289.SZ). <https://esg.wind.com.cn/WindESGRating/index.html?lan=cn#/ESGSummary>.