

Evaluation on the Quality of Environmental Accounting Information Disclosure

——A Case Study of Huayang Shares

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Abstract: This paper systematically analyzes the environmental accounting information disclosure practices of Huayang Shares (600348.SH) from 2019 to 2023, based on a constructed evaluation system for the coal industry, focusing on three dimensions: disclosure methods, content completeness, and quality grading. The study finds that Huayang Shares performs well in disclosure standardization and environmental liability measurement but shows significant deficiencies in the completeness of carbon emission data and the comparability of environmental performance. Through quantitative scoring and industry comparisons, recommendations such as optimizing disclosure structures and adopting blockchain certification technology are proposed, providing practical references for environmental information disclosure in the coal industry.

Keywords: Environmental Accounting; Information Disclosure; Coal Enterprises; Huayang Shares

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1. Construction of the Environmental Accounting Information Disclosure Quality Evaluation System

This study combines content analysis and quantitative scoring methods to establish an evaluation system tailored to the coal industry. Referencing the Global Reporting Initiative (GRI) Standards and China's Measures for the Disclosure of Environmental Information, the system divides the evaluation into five primary indicators and 28 secondary indicators, with a total score of 50 points. Quality levels are classified based on score ranges. Key components of the evaluation system (excerpted) are shown in Table 1

2. Evaluation of the Quality of Environmental Accounting Information Disclosure by Huayang Shares

2.1 Methods of Environmental Accounting Information Disclosure by Huayang Shares

Huayang Shares primarily discloses environmental accounting information through annual reports, social responsibility reports, and government regulatory platforms. Environmental management measures, pollutant data, and environmental protection investments (e.g., CNY 270 million in technical upgrades in 2023) are scattered across sections like "Board of Directors Report" and "Significant Events." Since 2021, the company has issued standalone social responsibility reports, but environmental information accounts for only 10% of the content, predominantly qualitative (e.g., "strengthening ecological restoration").^[1] Data such as emission permits and monitoring results are published on Shanxi Province's Corporate

Table 1 Evaluation system of environmental accounting information disclosure quality

Primary indicators	Secondary indicators	Code of points
Environmental management disclosure	Environmental policy and objectives	Clear carbon reduction targets (such as the 14th Five-Year Plan) are worth 2 points, otherwise 0 points
	Environmental management structure	A full-time environmental protection department is awarded 1 point, and the disclosure of departmental responsibilities is awarded 1 point
	Environmental training	1 point is awarded for environmental training of employees each year, and 1 point is awarded for public training records
Environmental compliance disclosure	Implementation of emission permits	3 points will be awarded for disclosing the validity of the emission permit and pollutant data, and 1 point will be deducted for missing key data (such as SO ₂ concentration)
	Environmental penalty record	No penalty record gets 2 points, disclosure of corrective actions adds 1 point
Environmental liability disclosure	Ecological restoration fund is set aside	4 points will be deducted for full provision in accordance with the Measures for the Administration of Mine Geological Environment Management and Restoration Fund, and 2 points will be added for disclosure of fund use details
	Carbon liability	Quantitative disclosure of the cost of compliance with carbon emissions (such as the carbon quota gap) is worth 3 points
Environmental performance disclosure	Carbon emissions data	Full disclosure of Scope 1 & 2 emissions gets 4 points, and only scope 1 gets 2 points
	Resource recycling rate	Disclosure of comprehensive utilization rate of coal gangue and mine water (e.g.>80%) gets 3 points
Information disclosure carrier	Completeness of the annual report environment chapter	The independent “environment and social responsibility” chapter gets 2 points, and the decentralized disclosure gets 1 point
	Third party certification	The environmental data is certified by accounting firms/industries associations for 2 points

Environmental Credit Evaluation System (rated Grade B in 2023).^[2] However, Huayang Shares lacks a dedicated Environmental Accounting Report, forcing stakeholders to extract key data from disparate documents (e.g., carbon emissions in annual reports, ecological restoration fund details in social responsibility reports). The company’s investor relations webpage also lacks an environmental information column, failing to meet the Guidelines for Environmental Information Disclosure by Listed Companies requirements for accessibility.

2.2 Content of Environmental Accounting Information Disclosure by Huayang Shares

Huayang Shares has shown progressive improvement in environmental management disclosure. Analysis of public records from 2018 to 2023 reveals that the company has established a systematic environmental policy framework with clear targets, integrating environmental protection into its long-term strategy.^[3] Notably, its *14th Five-Year Environmental Protection Plan* sets a 5% reduction goal for energy consumption per ton of coal (achieving 3.2% in 2023). In 2022, Huayang Shares formed a Carbon Neutrality Leadership Group under the general manager’s oversight, refining management processes thereafter. These measures reflect the company’s commitment to environmental governance.

In environmental liability disclosure, Huayang Shares demonstrates proactive efforts, particularly in identifying and measuring liabilities.^[4] For five consecutive years, the company accrued ecological restoration funds at CNY 5 per ton of coal, reaching a balance of CNY 1.27 billion in 2023. This underscores its accountability and management capability. However, inconsistencies persist in disclosing liability fluctuations, financial impacts, and mitigation measures, potentially obscuring a comprehensive understanding of its environmental liability management.

Compliance disclosure remains an area for improvement. In 2021, Huayang Shares incurred a CNY 350,000 penalty for improper solid waste disposal but only briefly noted “rectifications completed” in its annual report without detailing actions or outcomes.^[5] This highlights transparency gaps in reporting environmental violations. Enhancing disclosure mechanisms for environmental liabilities would improve stakeholder access to reliable information and align environmental and financial reporting standards.

Performance disclosure and reporting formats also lag. While annual environmental targets are set, progress updates are inconsistent. For example, the company reports a 76% comprehensive utilization rate for coal gangue but omits compliance details for the remaining 24%. Disclosures are fragmented across four annual report sections, complicating data retrieval, and social responsibility reports lack third-party verification.

Overall, Huayang Shares has advanced in environmental management and liability disclosure but must bolster completeness, continuity, and depth to strengthen transparency and credibility.

2.3 Quality Grading of Environmental Accounting Information Disclosure by Huayang Shares

From 2018 to 2022, Huayang Shares' disclosure quality exhibited fluctuations but trended upward, ranking above the industry median. The company maintained consistency in core areas like environmental liability and compliance disclosure, reflecting sustained focus. However, performance disclosure and reporting formats scored unevenly across years, indicating unresolved challenges. A critical gap is the absence of standardized operating procedures (e.g., for underground dust control), suggesting inadequate evaluation and communication of environmental governance outcomes.

3. Conclusions and Recommendations

3.1 Conclusions

Huayang Shares' overall environmental accounting disclosure quality requires improvement. Systemic shortcomings in completeness, accuracy, and timeliness are evident, particularly in quantifying environmental liabilities, carbon emissions, and performance metrics compared to industry leaders.

Internal governance flaws, such as unclear responsibilities and disjointed workflows, hinder progress. Externally, weak regulatory oversight and limited media scrutiny reduce accountability. Infrequent inspections and minimal penalties fail to deter non-compliance, while sparse expert analysis diminishes public scrutiny.

3.2 Recommendations

To enhance environmental accounting disclosure quality, it is recommended to deepen environmental awareness by integrating green development into corporate culture through comprehensive employee training; standardize disclosure frameworks by adopting uniform formats and metrics (e.g., GRI Standards) to improve comparability and transparency; strengthen regulatory enforcement through increased inspection frequency and stricter penalties for non-compliance; improve data quality by implementing robust internal controls and third-party audits to ensure reliability; and promote technological innovation by investing in R&D for pollution reduction and resource efficiency. These measures collectively aim to elevate the accuracy, consistency, and credibility of environmental disclosures while fostering sustainable corporate practices.

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Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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