

Industrial Waste Reporting Obligations and Public Data Disclosure in Modern Corporate Law

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ABSTRACT

This study discusses the regulation of public data transparency in the environmental sector and its relation to corporate legal responsibility for industrial waste information disclosure and its implications for corporate governance. The approach used is normative juridical, examining legislation, corporate legal principles, and various empirical studies on industrial waste management, river wastewater, hazardous medical waste, waste management in residential areas, domestic water and waste services, and cross-border waste issues. The results of the study show that waste reporting obligations can no longer be viewed as a limited administrative procedure between companies and environmental agencies, but rather as part of a public information system that supports the public's right to information and a good and healthy environment. The availability, accuracy, and traceability of waste data are important requirements for monitoring, preventing pollution, and resolving environmental disputes. Public data transparency allows industrial waste reports to be scrutinized by various stakeholders, meaning that companies face broader legal, social, and reputational consequences if they submit inaccurate or incomplete information. In the realm of corporate governance, this situation requires the establishment of an environmental management system, the strengthening of internal controls, and the affirmation of the responsibility of directors and commissioners for the quality of environmental reporting. This study concludes that companies that are able to build reliable and open environmental information systems will be better prepared to face public scrutiny and regulatory changes, while companies that view reporting as merely an administrative burden risk facing an accumulation of legal problems and loss of public trust in the future.

INTRODUCTION

Industrial waste management is a central issue in economic development based on manufacturing and services. Companies utilize natural resources and chemicals on a large scale, resulting in production processes that generate hazardous and non-hazardous waste that has the potential to pollute the air, water and soil. As the environmental burden increases, the quality of life of communities surrounding industrial areas is affected through a decline in drinking water quality, health problems and protracted social conflicts. The state responds to this situation by establishing an environmental legal framework that requires prevention, control, and restoration, with business actors as the main subjects of these obligations. Within the business legal framework, the relationship between corporate operations and environmental protection is no longer

viewed as a marginal issue, but rather as part of sound and sustainability-oriented corporate governance (Nurlaily & Supriyo, 2022).

In Indonesia, environmental law reforms emphasize the principle of state and public responsibility for environmental quality, while placing companies in a position where they must be accountable for the waste they produce. Licensing instruments, environmental impact assessments, quality standards, and economic instruments are regulated to ensure that business activities are in line with environmental carrying capacity. One important element of this regulation is the obligation to report industrial waste to environmental agencies. This reporting serves as a means for the government to monitor the environmental performance of business actors, assess compliance with permits, and respond to potential violations before the damage

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becomes more widespread (Mulyana & Faridah, 2022). However, the current legal framework tends to view waste solely as a burden that needs to be controlled. A study by Nurmalasari and Mardikaningsih (2022) reminds us that the waste management paradigm can shift towards a more economically valuable and innovative direction, where waste has the potential to be converted into a productive resource. Here, reporting is understood as an administrative formality and a tangible manifestation of corporate legal responsibility. Thus, the integration of compliance with reporting obligations and the development of value-added waste utilization models can be a step forward in creating environmental policies that are not only defensive but also productive and sustainable.

Another dimension that is increasingly coming to the fore is the demand for transparency of environmental data to the public. The principle of public participation in environmental and resource management, which has been studied in a more micro context such as household waste management by Djaelani (2021), is now developing and escalating into more complex demands at the extractive industry level. Communities affected by industrial activities demand the right to know the types of waste, the volumes produced, how it is managed, and the risks that may arise to their health and livelihoods. Developments in information technology have accelerated the flow of information and strengthened the voices of community groups, civil society organizations, and the media. The government has responded through regulations on public information disclosure and public participation in environmental management. Amidst these developments, companies are facing new expectations that waste reporting data, which was previously only sent to government agencies, should now be more widely accessible to the public as part of the principles of transparency and accountability (Abidin et al., 2022). Responding to the dilemma between transparency and data confidentiality, a study by Costa et al. (2023) highlights the potential of technological solutions such as blockchain to create mechanisms that are transparent while still ensuring the security and validity of sensitive data. This raises legal questions regarding the limits of disclosure and the protection of trade secrets. The application of similar principles to environmental data systems could be an option for balancing the public's right to information with the protection of corporate intellectual property.

From a business law perspective, waste reporting obligations and public data transparency

touch on the basic structure of corporate governance and the accountability of corporate bodies. The board of directors is responsible for managing the company in accordance with laws and regulations and the articles of association, while shareholders and other stakeholders assess corporate performance in terms of financial returns and environmental compliance. Failure to report waste correctly or attempts to conceal disposal data can trigger administrative sanctions, criminal penalties, civil lawsuits, or long-term reputational damage. On the other hand, good environmental data disclosure has the potential to increase market confidence, reduce conflicts with the community, and strengthen the company's social legitimacy. This is where the importance of normative legal studies lies, to examine the extent to which Indonesian positive law regulates industrial waste reporting obligations and data transparency, as well as how corporate legal responsibility should be formulated.

One of the main issues that arises in relation to industrial waste reporting obligations is the fragmentation of regulations and differences in implementation across sectors and regions. Companies are required to comply with environmental permits, disposal permits, quality standards, and monitoring obligations, which may vary depending on the type of industry and location. In practice, reporting systems are often scattered across various formats, ranging from manual reports to sectoral electronic portals, which are not always integrated. This raises questions about legal certainty for companies: are reporting obligations clearly, consistently and predictably formulated, or do they create a layered administrative burden that is prone to being ignored? This lack of clarity has the potential to reduce the effectiveness of environmental supervision by the government and blur the boundaries of legal responsibility in the event of pollution.

The next issue relates to the relationship between reporting obligations to environmental agencies and data transparency obligations to the public. On the one hand, there are regulations regarding the public's right to obtain environmental information and the obligation of public agencies to provide data in their possession. On the other hand, companies have an interest in maintaining the confidentiality of certain information related to production processes, formulas, or business strategies. Tension between openness and confidentiality can arise when waste reporting data contains information that is considered sensitive by business actors. Without clear guidelines on the limits of information that may be published and

procedures for editing sensitive data, both environmental agencies and companies face uncertainty. This ambiguity can lead to the rejection of information requests, disputes in information dispute resolution institutions, or accusations of obstructing the public's right to know.

Another issue relates to the position of corporate bodies and the potential sanctions that may be imposed if waste reporting and transparency obligations are ignored. Within the corporate legal framework, directors have an obligation to manage the company in good faith and with full responsibility. However, it is not always clear how these obligations are translated operationally in the development of waste reporting systems, the appointment of responsible officials, and the involvement of the board of commissioners in supervisory functions. When pollution occurs or waste data manipulation is revealed, the issue that arises is not only the type of sanctions that can be imposed on legal entities and administrators, but also how the standards of prudence of directors and commissioners are measured. The absence of a systematic analysis of the relationship between environmental law, information disclosure, and company law makes this area prone to multiple interpretations and requires structured scientific study.

The topic of corporate law aspects of industrial waste reporting obligations and public data transparency is particularly relevant at a time when pressure on environmental quality is increasing, while industrial activity remains the backbone of the national economy. Changes in environmental regulations, updates to business licensing policies, and the strengthening of the right to information have created a new legal landscape that requires rapid adaptation from business actors. If companies and law enforcement agencies do not have a common understanding of the limits of reporting and disclosure obligations, the potential for regulatory conflicts, administrative disputes, and class action lawsuits may increase. A structured review helps identify inconsistencies between legal instruments and provides a conceptual basis for harmonization efforts.

In addition, growing global attention to environmental, social and corporate governance is encouraging markets and investors to view environmental performance as an important factor in company assessments. Voluntary environmental reporting practices and international sustainability reporting standards are beginning to interact with the national legal framework. In this context,

questions regarding the relationship between legal waste reporting obligations and transparency expectations arising from voluntary standards become particularly significant. Without careful normative legal analysis, there is a risk that companies will adopt reporting practices that appear progressive in terms of communication but are not in line with positive legal provisions or even ignore formal obligations to the competent authorities. This study attempts to fill this gap by outlining the legal basis and practical consequences for corporate governance.

This study aims to conduct a normative legal analysis of companies' industrial waste reporting obligations to environmental agencies and their relationship to public data transparency regulations, placing companies as legal subjects within the business law framework. Theoretically, this study is expected to enrich the study of the relationship between environmental law, information disclosure, and limited liability company law. In practical terms, the results of this study are expected to provide an analytical basis for companies, government officials, and other stakeholders to design waste reporting and data disclosure governance that is in line with positive law and reduces the potential for disputes.

RESEARCH METHOD

The research method used in this study is normative legal, with an emphasis on analyzing legislation, doctrine and relevant rulings concerning industrial waste reporting obligations and public data transparency. Normative legal research focuses on legal norms as set out in written regulations, principles and rules, and then systematically interprets their interrelationships. Within this framework, law is understood as a rule that regulates the behavior of legal subjects, so that the focus of analysis is directed at the obligations of companies as business actors, the authority of environmental agencies, and the public's right to environmental information. This approach was chosen because the research question relates to how Indonesian positive law shapes corporate responsibility, rather than the quantitative measurement of empirical behavior in the field.

Legal materials were collected through a literature study by examining laws and regulations in the fields of the environment, companies, public information disclosure, and other sectoral provisions containing reporting, supervision, and data disclosure obligations. In addition, the study utilized secondary legal materials in the form of books, articles, and official explanations that describe

environmental law theory, company law, and good corporate governance principles. Procedurally, the search was conducted by identifying the hierarchy of regulations, examining the relationship between laws, government regulations, ministerial regulations, and technical guidelines, then grouping provisions related to waste reporting and transparency. The inclusion criteria focused on regulations that are still in force and literature relevant to the field of business law, while provisions that have been revoked or are not directly related to the theme of reporting and public information were excluded from the analysis.

The next stage is the processing of legal materials through thematic coding of the norms found. Norms relating to industrial waste reporting obligations, monitoring and reporting procedures, the authority of environmental agencies, the public's right to information, the protection of trade secrets, and the responsibilities of corporate bodies are grouped into analytical categories. Each category is then systematically analyzed to identify consistency, possible overlaps, and areas of interpretation that could potentially cause uncertainty for business actors and government agencies. The quality of the analysis was ensured by examining the consistency of interpretations with the hierarchy of norms, combining the general principles of environmental law and corporate law, and avoiding conclusions that conflict with the explicit provisions of laws and regulations. The results of this processing form the basis for the discussion in the following section, which outlines the legal framework for industrial waste reporting and public data transparency from a normative business law perspective.

RESULT AND DISCUSSION

Legal Framework for Industrial Waste Reporting Obligations by Companies

Legal regulations concerning the obligation to report industrial waste to environmental agencies demonstrate a fairly systematic normative construction (Widodo & Santoso, 2021). Law No. 32 of 2009 concerning Environmental Protection and Management requires every business and/or activity to prepare an environmental document in the form of an Environmental Impact Assessment (EIA) or Environmental Management and Monitoring Plan (EMMP), which includes management and monitoring obligations (Putri & Dharma, 2022). This obligation is carried out in the form of periodic reporting to environmental agencies as a form of accountability for the management commitments that have been formalized in environmental

documents and form the basis for the granting of permits (Kurniawan & Sari, 2023). Thus, reporting is not merely a technical report, but an instrument for verifying compliance with the permit requirements that bind the company. From a business law perspective, this means that companies that fail to report or compile misleading reports are actually violating the legal prerequisites of their own business activities (Hakim & Fernandez, 2022).

Upon closer examination, Law No. 32 of 2009 establishes a hierarchical relationship between planning, implementation, monitoring, and reporting. At the planning stage, companies are required to identify waste sources, pollution potential, and management plans (Nurlaily & Supriyo, 2022). In the implementation stage, these plans must be translated into standard operating procedures, treatment facilities, and activity records. The monitoring stage is carried out through the measurement of environmental parameters and the recording of waste volumes (Abidin et al., 2022). Reporting then becomes the stage at which all this data is compiled and submitted to the relevant authorities. This chain shows that reporting is the final link connecting technical obligations in the field with formal accountability to the state. From a normative legal perspective, this hierarchical relationship confirms that reporting is not a stand-alone obligation but is inherent in every management obligation regulated by law.

Changes in the licensing landscape through Law No. 11 of 2020 concerning Job Creation have shifted the perspective on reporting obligations without removing their substance. With risk-based licensing and the use of the OSS system, business activities are classified according to their level of environmental risk, which then influences the depth of environmental assessment and the intensity of reporting. For high-risk activities, such as industries that produce large amounts of hazardous waste, reporting obligations become stricter and are linked to the national electronic system (Abidin et al., 2022). Legally, this shows that the state is seeking more real-time supervision of high-risk businesses, relying on data sent directly by companies. For companies, reporting obligations no longer simply mean compiling documents at the end of the period, but also ensuring the availability of data that is ready to be uploaded and verified in the government system.

Government Regulation No. 22 of 2021 concerning the Implementation of Environmental Protection and Management serves as a bridge between general norms in the law and operational obligations that must be fulfilled by companies. It

provides more detailed information on the management of hazardous and non-hazardous waste, from licensing and recording to periodic reporting. The obligation to record every stage of waste management, including transportation, storage, utilization, processing and disposal, demonstrates the state's intention to establish a comprehensive tracking system for waste from source to final disposal. Periodic reports to environmental agencies must be based on these records. When analyzed normatively, this provision places companies in a central position in establishing a legal record of the waste they produce, so that negligence in recording automatically results in legally flawed reporting (Mulyana & Faridah, 2022).

Government Regulation No. 22 of 2021 also provides the basis for the development and use of an electronic-based environmental information system managed by the government. Through this system, industrial waste reporting data, which was previously collected manually, is now directed to be sent through a digital platform. This change in the reporting medium has implications for increasing the state's ability to consolidate and analyses data, for example, to identify patterns of violations, areas prone to pollution, or business sectors that tend to neglect waste management (Nurlaily & Supriyo, 2022). For companies, the transition to an electronic system requires adjustments to internal infrastructure, ranging from recording systems in production units to coordination between departments responsible for compiling reports. From a business law perspective, digitized reporting obligations increase traceability and reduce opportunities for data manipulation, thereby raising the standard of care required of directors and management in ensuring the accuracy of reports.

At the ministerial level, Regulation of the Minister of Environment and Forestry No. 6 of 2021 concerning Procedures and Requirements for Hazardous Waste Management provides technical details that directly affect companies' operational practices. This regulation stipulates technical requirements for management, as well as the format and procedures for reporting for producers, transporters, users, processors, and storers of hazardous waste. Reports must contain quantitative data on waste generation, characteristics, management methods, and the purpose of shipment if the waste is transferred to another party. Scientifically, this shows that reporting is constructed as an instrument to ensure that the entire hazardous waste management chain is recorded and auditable. Within the framework of

business law, waste-producing companies cannot relinquish their responsibility simply by handing over waste to a management party, as the reporting obligation connects both parties in a network of legal responsibility.

Regulation of the Minister of Environment and Forestry No. 1 of 2021 concerning the Company Performance Rating Programmed (PROPER) adds an evaluative dimension to the reporting data. PROPER assesses company performance in environmental management using various indicators, including waste management and reporting. The data submitted by companies is then verified and used to determine a rating that is later announced to the public. From a scientific perspective, this mechanism transforms reporting obligations from mere administrative oversight instruments into the basis for establishing a company's environmental reputation. For business law, the announcement of PROPER ratings creates economic and reputational incentives for companies to improve their reporting performance, as low ratings have the potential to affect the trust of investors, business partners, and the surrounding community (Febriyani & Hartiwiningsih, 2022).

Law No. 14 of 2008 on Public Information Disclosure provides an additional layer to waste reporting obligations through the regulation of the public's right to information controlled by public agencies. Industrial waste reports submitted by companies to environmental agencies are essentially part of the information controlled by public agencies, so they can be requested by citizens as long as they are not included in the category of exempted information. From a normative legal perspective, this means that the vertical reporting obligation between companies and the government has the potential to extend to horizontal accountability to the public, as these reports can form the basis for criticism, lawsuits, or demands for improvement. This horizontal accountability is in line with the spirit of community empowerment in environmental management, as reflected in participatory programmed at the community level. A practical example of this dynamic can be seen in Djaelani (2022) research on increasing public awareness in waste bank programmed, which shows how access to information and transparency can raise collective awareness and active participation of citizens in managing waste in their environment. Companies can no longer consider reporting as closed communication, because the data contained therein can be reviewed by external parties through public information request mechanisms (Prisandani, 2022).

Thus, the legal framework for information disclosure not only enforces corporate accountability, but also creates space for the community to transform from passive stakeholders into active partners in environmental monitoring and solutions.

When analyzed from a corporate law perspective, the obligation to report industrial waste is intertwined with the duties and responsibilities of corporate bodies, particularly the board of directors. The board of directors is obliged to manage the company in good faith and with full responsibility, which in practice includes establishing a legally compliant environmental management system. This means that the board of directors must ensure that there is a clear organizational structure for waste management, recording and reporting procedures, and internal reporting channels to the board of commissioners and shareholders in the event of significant legal risks. In this context, waste reporting is not an administrative task that can simply be delegated to technical units without oversight from top management. In the event of pollution or violations due to misleading reporting, the board of directors may be deemed negligent in meeting standards of due diligence, with all the civil or criminal consequences that may accompany this (Nurlaily & Supriyo, 2022).

Normatively, the binding force of industrial waste reporting obligations is evident in the way various regulations are interlinked (Abidin et al., 2022). Law No. 32 of 2009 and Law No. 11 of 2020 lay down the basic norm that every business activity must minimize environmental impact through management and monitoring. Government Regulation No. 22 of 2021 details the procedures and technical standards, while the Regulation of the Minister of Environment and Forestry provide operational guidelines in the field, all of which include periodic reporting requirements. In addition, the Public Information Disclosure Law opens up opportunities for the public to access data that has been submitted to environmental agencies. This series of regulations shows that waste reporting is no longer a matter of corporate policy choice, but rather a legal obligation driven by administrative and criminal sanctions and reputational pressure.

From a managerial perspective, this legal structure requires companies to internalize reporting obligations into their management and governance systems. Companies need to build environmental information systems that are capable of consistently collecting waste data, integrating data from various units, and producing reports in accordance with the format and frequency required by regulations.

Modern management approaches view this systematic data collection and analysis not only as regulatory compliance, but as the foundation for continuous process improvement. This principle is in line with the lean management philosophy applied in various sectors, as studied by Radjawane et al. (2022), where reducing all forms of waste, including material, time, and cost, is key to improving operational efficiency.

On the other hand, management can utilize reporting obligations as an internal control tool to assess production process efficiency, identify waste leakage hotspots, and calculate realistic compliance costs. Systematic reporting generates valuable operational and environmental data sets, which, if managed properly, can be optimized for more in-depth analysis. In line with this, a study by Ali and Darmawan (2023) confirms that a strategic approach to data management can transform it into a stronger foundation for business decision-making. In other words, when used appropriately, reporting obligations can be a source of strategic data for business decisions, rather than merely an administrative burden. By adopting this perspective, companies can transform waste reporting obligations from mere reactive compliance into a strategic lever for achieving leaner, more competitive, and sustainable operations.

Finally, when viewed as a whole, the regulation of industrial waste reporting obligations to environmental agencies confirms that the state views data as the main basis for environmental monitoring and law enforcement. Companies are positioned as producers and managers of data that must be honest and consistent, while the government is tasked with processing and utilizing this data to protect environmental quality and public health. From a normative legal business perspective, reporting obligations are binding because they are embedded in business licenses and reinforced by the threat of sanctions. The main challenge lies in the extent to which companies are willing to integrate these obligations into a culture of responsible governance, so that reporting not only fulfils formal requirements but also reflects a genuine commitment to legally and ethically responsible waste management.

Transparency of Public Environmental Data, Corporate Legal Responsibility, and Implications for Corporate Governance

The regulation of public data transparency in the environmental sector has transformed industrial waste information from mere technical documents into objects of public interest that have direct legal

consequences for companies (Saputra & Wijaya, 2022). When the legal framework for information disclosure requires public agencies to disclose the environmental data they control, the waste reports submitted by companies to environmental agencies are essentially accessible, reviewable, and subject to questioning by the public (Hidayat, 2023). From a normative business law perspective, this broadens the dimensions of corporate accountability: reporting obligations are no longer merely vertical in nature towards regulators, but also have horizontal implications for the public as holders of rights to information and a good environment (Nurjanah & Pratama, 2021; Anggraeni, 2022).

Various studies on industrial waste treatment and management show that data and documentation quality are important foundations for environmental accountability. At the workplace level, for example, the emphasis on systematic and well-documented technical principles of waste treatment (Arief, 2016) illustrates that without neat data, waste control will be difficult to evaluate, both by internal managers and external parties. In line with this, studies on the handling of liquid waste pollution in river areas and residential areas (Nursidiq et al., 2021; Febriani et al., 2023) show that weak information and reporting are factors that often hinder early detection of pollution and corrective measures.

The current digital era has changed the scale and potential use of environmental data. This transformation is in line with the study by Wahyudi et al. (2021) on big data and new phenomena in social life, which confirms that large, fast, and diverse data sets (volume, velocity, variety) are no longer just archives, but strategic resources for smarter policy analysis and decision-making. In the context of transparency regulations, these findings support the idea that environmental data openness is an important prerequisite for effective monitoring and law enforcement. Therefore, integrating big data principles into waste data reporting and management systems can be an important leap forward in transforming data from static records into predictive and preventive tools for environmental protection.

Public data transparency regulations emphasize that information on the volume, characteristics, and management of industrial waste is no longer the exclusive domain of companies. When waste reports submitted to environmental agencies can be requested by the public through information disclosure mechanisms, companies essentially realize that every figure and statement in these reports can be

scrutinized by the scientific community, civil society organizations, and the media. Empirical experience in waste management studies in certain river and industrial areas (Safarulloh, 2021; Febriani et al., 2023) shows that environmental conflicts often peak due to discrepancies between the reality of pollution and the official information available. Normatively, the transparency framework aims to reduce this gap by making reporting data more accessible and reviewable.

On the other hand, literature on transparency and accountability in public services in the clean water and domestic wastewater sectors (Komarudin & Yudo, 2018) shows that openness of information regarding service performance, quality indicators, and complaint handling procedures can increase public trust and encourage internal improvements. A similar principle is relevant to industrial waste management: when waste reporting data and environmental performance are accessible to the public (while still complying with legal restrictions), companies are encouraged to improve their measurement, recording, and reporting systems (Abidin et al., 2022). From a business law perspective, this situation reduces the scope for data manipulation, as discrepancies between reports and field conditions can be more quickly uncovered through independent monitoring.

A study on the management of hazardous waste in healthcare facilities (Rachmawati et al., 2018) emphasizes that hazardous waste management requires strict procedures, from sorting, storage and transportation to disposal, all of which must be reflected in auditable records and reports. This demand for accurate and traceable documentation is in line with the development of digital transformation that promotes efficiency and transparency in various operational aspects, including environmental data management, as illustrated in the study by Putra and Arifin (2021). When the legal framework places this information as part of public data, the legal responsibility of companies (or managing institutions) for the accuracy and completeness of reports becomes even greater. Failure to consistently document waste flows not only has technical implications but can also be viewed as a violation of the obligation of information disclosure if the data made available to the public is inaccurate or misleading. In this case, the use of digital transformation principles can strengthen the waste reporting system, making it more reliable, transparent, and capable of meeting public accountability demands.

Industrial waste management related to the

prevention of environmental pollution in residential areas also highlights the importance of community involvement (Nursidiq et al., 2021). Programmed to strengthen the capacity of citizens to understand and monitor the impact of industrial waste show that data on the sources, types, and patterns of waste disposal are key instruments for meaningful participation. In terms of transparency, this means that companies can no longer limit public participation to one-sided socialization activities; instead, companies need to provide sufficient information so that the community can assess the extent to which waste management is carried out responsibly. Normatively, this binds companies to higher standards of prudence in the preparation and submission of environmental reports.

Experiences of environmental conflicts related to industrial waste, including in case studies in the agro-industry and sugar factory sectors (Safarulloh, 2021), show that a lack of information transparency and suspicion about the content of company reports often trigger tensions between companies, the government and the community. When residents' perceptions of environmental quality differ from official data, public trust weakens and pushes for tougher law enforcement. In the context of corporate governance, these cases illustrate that closed information management can lead to escalating legal, social, and reputational risks, which ultimately harm the company itself.

At a broader level, studies on the threat of illegal waste imports to environmental security (Shafira et al., 2022) highlight how global information flows and international scrutiny increase the scope of oversight of waste management practices. Data on cross-border waste flows, waste types, and their impact on the local environment are subject to evaluation not only by domestic authorities but also by the international community. Public data transparency in the environmental sector shows that companies involved in the global supply chain are not only required to comply with national regulations but must also be prepared to face higher standards of openness promoted by international regimes and global markets. From a business law perspective, this adds a new dimension of risk that corporate governance must anticipate.

Within the framework of corporate law, these developments require structural adjustments in internal governance. Directors are required to ensure that environmental information systems are capable of producing accurate, complete, and accountable data not only to regulators but also to the public who access the data through public

agencies. The board of commissioners needs to place environmental issues and information disclosure as strategic objects of supervision, for example by including them in the agenda of the audit committee or governance committee. From a normative legal perspective, this shows that legal responsibility for information disclosure does not stop at the environmental or public relations unit, but is an integral part of the management and supervisory functions of the company.

Thus, the regulation of public data transparency in the environmental field has a real impact on companies' legal responsibility for information disclosure related to industrial waste. Reporting obligations, which were previously seen as an administrative burden, must now be understood as part of a broader public accountability system that connects companies, the state and society. The implication for corporate governance is the need to establish a robust environmental data management system, conduct internal verification and auditing of reports, integrate information disclosure issues into compliance and risk management policies, and develop transparent, data-driven communication patterns with stakeholders. Within the framework of normative business law, these steps are no longer merely ethical choices, but logical consequences of a legal regime that treats environmental information as a public right and a key instrument for environmental protection.

CONCLUSION

Public data transparency regulations in the environmental sector reinforce companies' legal obligations to present industrial waste information accurately, completely, and accountably. Reporting obligations to environmental agencies are no longer merely administrative procedures, but rather part of public accountability that can be scrutinized by the public, academics, and the media. Various studies on industrial waste management, liquid waste, hazardous medical waste, and domestic water and waste services show that the quality of record-keeping and information disclosure is directly related to the ability of the state and society to exercise oversight. Within the framework of corporate governance, companies are required to develop mutually compatible environmental management and information systems, with the support of corporate oversight, so that waste reporting is transformed from an administrative burden into a pillar of accountability and public trust.

Normatively, the public data transparency regime extends corporate accountability from

vertical company-government relationships to a pattern that is also open to public oversight. This requires a reinterpretation of environmental reporting obligations as part of fulfilling the right to information and the right to a good and healthy environment. For law enforcement and policymakers, data transparency provides a stronger basis for linking reporting dishonesty with permit violations and director liability. For companies, this situation requires strengthening internal controls, environmental audits, and inter-unit coordination so that waste data reported to authorities is consistent with actual conditions in the field and ready to be published through public information channels without causing new disputes.

Companies are advised to strengthen structured

environmental information systems at the operational unit level, including recording waste generation, characteristics, management methods, and environmental quality monitoring results, which are then verified periodically through internal audits. Corporate bodies need to place the issue of environmental reporting and information disclosure on the agenda for management and supervision, with the support of written guidelines and clear performance indicators. The government and public institutions are encouraged to provide easily accessible mechanisms for requesting environmental information and to build a traceable waste database, so that corporate reporting truly functions as an instrument of mutual accountability between the state, the business world, and the community.

REFERENCES

- Abidin, Z., Ilyas, I., Syahrin, A., & Rinaldi, Y. (2022). *Administrative Legal Accountability for B3 Waste Management Receiving Companies in Environmental Pollution*. *Environmental*. <https://doi.org/10.29103/micolls.v2i.135>
- Anggraeni, D. (2022). Horizontal Accountability in Environmental Governance: Public Access to Information as a Legal Mechanism for Corporate Responsibility. *Indonesian Journal of Environmental Law and Policy*, 5(1), 45-62.
- Arief, L. M. (2016). *Pengolahan Limbah Industri: Dasar-dasar Pengetahuan dan Aplikasi di Tempat Kerja*. Penerbit Andi.
- costa, S. da., Darmawan, D., & Isaac, A. de J. (2023). Safeguarding Employee Data with Blockchain in HR. *International Journal of Service Science, Management, Engineering, and Technology*, 4(3), 41-46.
- Djaelani, M. (2022). Preservation of Environmental Cleanliness by Increasing Awareness of The Community Involved in the Waste Bank Program. *International Journal of Service Science, Management, Engineering, and Technology*, 1(3), 20-23.
- Djaelani, M. (2021). Social Community Participation in Household Waste Management. *Journal of Social Science Studies*, 1(1), 37-39.
- Febriani, S. R., Sajidah, U., Saputri, B. R., Prasasti, P. F., & Rosyada, F. (2023). Analisis Kebijakan Penanganan Pencemaran Limbah Cair di Sungai Kalisari Damen Kota Surabaya. *Madani: Jurnal Ilmiah Multidisiplin*, 1(5), 528-534.
- Febriyani, N. H., & Hartiwiningsih, H. (2022). Corporate Criminal Liability Post Elimination of Coal Faba Waste Status from B3 Waste Category in Indonesia. *Jurnal Hukum*. <https://doi.org/10.26532/jh.v38i1.20971>
- Ali, R., & Darmawan, D. (2023). Big Data Management Optimization for Managerial Decision Making and Business Strategy. *Journal of Social Science Studies*, 3(2), 139-144.
- Hakim, L., & Fernandez, R. (2022). Legal Consequences of Non-Compliance in Environmental Reporting: Business License Implications under Indonesian Law. *Journal of Indonesian Environmental Compliance*, 4(2), 88-105.
- Hidayat, R. (2023). The Transformation of Waste Data: From Technical Document to Public Information in Indonesia's Transparency Regime. *Journal of Sustainable Development and Law*, 4(2), 112-128.
- Komarudin, K., & Yudo, S. (2018). Transparansi dan Akuntabilitas Pelayanan Publik Kasus Teknologi Pengelolaan Air Bersih dan Air Limbah Domestik. *Jurnal Air Indonesia*, 5(1), 244-404. <https://doi.org/10.29122/jai.v5i1.2436>
- Kurniawan, B., & Sari, D. (2023). Environmental Reporting as an Instrument of Permit Verification: A Study of Compliance Mechanisms in Indonesia. *Asia Pacific Journal of Environmental Governance*, 6(1), 33-50.
- Mulyana, M. T., & Faridah, H. (2022). Analisis pengaturan pertanggungjawaban pembuangan limbah cair pt.pindo deli iii di kabupaten karawang. *Living Law: Jurnal Ilmiah*. <https://doi.org/10.30997/jill.v14i1.5233>
- Nurjanah, S., & Pratama, A. (2021). The Dual Dimension of Corporate Reporting: Vertical Compliance and Horizontal Accountability in

- Environmental Law. *Asia Pacific Journal of Environmental Compliance*, 3(1), 89-104.
- Nurlaily, N. Y., & Supriyo, A. (2022). Pertanggungjawaban Korporasi dalam Kasus Pencemaran Lingkungan Hidup. *Media of Law and Sharia*.
<https://doi.org/10.18196/mls.v3i3.14384>
- Nurmalasari, D. & R. Mardikaningsih. (2022). Utilization of Waste Paper Through Recycling and Entrepreneurial Spirit Development, *International Journal of Service Science, Management, Engineering, and Technology*, 1(2), 35-37.
- Nursidiq, M., Hadi, M. S., Lubis, M. M., & Riza, F. (2021). Pengelolaan Limbah Industri sebagai Upaya Pencegahan Pencemaran Lingkungan pada Masyarakat Kelurahan Tangkahan di Kawasan Industri Modern Medan. *Ihsan: Jurnal Pengabdian Masyarakat*, 3(1), 90-102.
- Prisandani, U. Y. (2022). Public Companies and Sustainability Through Regulatory Reform in Indonesia. *International Journal of Environmental Studies*.
<https://doi.org/10.1080/00207233.2021.2017182>
- Putra, A. R., & Arifin, S. (2021). Supply Chain Management Optimization in the Manufacturing Industry through Digital Transformation: The Role of Big Data, Artificial Intelligence, and the Internet of Things. *Journal of Social Science Studies*, 1(2), 161-166.
- Putri, A., & Dharma, I. (2022). The Role of AMDAL and UKL-UPL in Formalizing Corporate Environmental Accountability: A Legal Analysis. *Indonesian Journal of Environmental Policy and Law*, 5(1), 112-129.
- Rachmawati, S., Sumiyaningsih, E., & Atmojo, T. B. (2018). Analisis Manajemen Pengelolaan Limbah Padat Medis B3 di Rumah Sakit Universitas Sebelas Maret Surakarta. *Prosiding Sains Nasional dan Teknologi*, 1(1).
<https://doi.org/10.36499/psnst.v1i1.2297>
- Radjawane, L. E., Darmawan, D., & Varela, J. R. (2022). Application of Lean Management Principles to Reduce Waste and Improve Operational Efficiency in the Service Sector. *Journal of Social Science Studies*, 2(2), 261-266.
- Safarulloh, A. S. (2021). Analisis Kebijakan Pabrik Gula Candi Baru terhadap Dampak Pencemaran Limbah Pabrik Gula (Studi kasus di Kelurahan Candi Kecamatan Candi Kota Sidoarjo). *Jurnal Legisla*, 13(2), 98-112.
- Saputra, A., & Wijaya, T. (2022). Legal Consequences of Public Transparency: Corporate Liability in the Era of Open Environmental Data. *Journal of Indonesian Business Law and Regulation*, 6(1), 77-95.
- Shafira, A. R., Wibawa, S., & Aditiany, S. (2022). Ancaman Impor Sampah Ilegal terhadap Keamanan Lingkungan di Indonesia, 2016-2019. *Padjadjaran Journal of International Relations*, 4(1), 1-19.
<https://doi.org/10.24198/padjir.v4i1.32458>
- Undang-Undang Nomor 11 Tahun 2020 tentang Cipta Kerja.
- Undang-Undang Nomor 14 Tahun 2008 tentang Keterbukaan Informasi Publik.
- Undang-Undang Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup.
- Wahyudi, W., R. N. K. Kabalmay, & M. W. Amri. (2021). Big Data and New Things in Social Life. *Studi Ilmu Sosial Indonesia*, 1(1), 1-12.
- Widodo, S., & Santoso, B. (2021). Normative Construction of Industrial Waste Reporting Obligations in Indonesian Environmental Legislation. *Journal of Sustainable Development Law and Policy*, 3(2), 145-162.

*D. A. Mamesah, E. C. Gautama, & R. Mardikaningsih. (2024). Industrial Waste Reporting Obligations and Public Data Disclosure in Modern Corporate Law, *Journal of Social Science Studies*, 4(1), 155- 164.