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The Application of the Strict Liability and Polluter Pays Principles in the Mining Sector Following the Enactment of Minerals and Coal Law No. 2 of 2025

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Abstract

The mining sector is one of the strategic sectors contributing to national economic growth through increased investment, mineral downstreaming, and the strengthening of energy security. The enactment of Law Number 2 of 2025 concerning the Fourth Amendment to Law Number 4 of 2009 concerning Mineral and Coal Mining has brought about a shift in the regulatory orientation of the mining sector, placing greater emphasis on investment and business governance. This condition raises questions regarding the position and application of the Strict Liability and Polluter Pays Principle as bases for environmental liability in the resolution of disputes within the mining sector. This research aims to analyze the regulation of these two principles before and after the enactment of Mining Law No. 2 of 2025, as well as to identify the problems and challenges in their application in the resolution of environmental disputes. This research constitutes normative legal research employing a statute approach and a conceptual approach. The legal materials used consist of primary and secondary legal materials, which were analyzed prescriptively. The results of the research indicate that, normatively, the Strict Liability and Polluter Pays Principle continue to derive their legal basis from Law Number 32 of 2009 concerning Environmental Protection and Management, notwithstanding the enactment of Mining Law No. 2 of 2025. However, the shift in mining policy orientation now placing greater emphasis on investment, downstreaming, and an administrative approach has not been accompanied by a strengthening of the regulation of environmental liability within the Mining Law.

KEYWORDS
Strict Liability, Polluter Pays Principle, Mining Sector, Minerals and Coal Law No. 2 of 2025.

Introduction

The mining sector occupies a strategic position in driving national economic growth through the provision of industrial raw materials, increased investment, and the strengthening of natural resource downstreaming programs. Ironically, mining activities also constitute one of the sectors most vulnerable to giving rise to environmental conflicts due to the high risk of pollution and ecosystem damage. In addition to ecosystem damage, failures in the implementation of reclamation and post-mining activities have also given rise to various disputes among business actors, communities, and the government[1]. Such conflicts concern the loss of the ecological functions of the environment, which has an impact on the sustainability of the life of both the present and future generations. This condition demonstrates that increased investment and exploitation of mineral resources must be accompanied by a legal liability mechanism capable of ensuring the effective implementation of environmental restoration, rather than merely the fulfillment of administrative obligations by business actors.

Developments in the mining sector in recent years have produced changes in legal policy through Law Number 2 of 2025 concerning the Fourth Amendment to Law Number 4 of 2009 concerning Mineral and Coal

[1] Bintang Bima Taruna and R. Eriska Ginalita Dwi Putri, "Implementasi Undang-Undang Minerba Nomor 3 Tahun 2020 Tentang Pertambangan Mineral Dan Batubara Dalam Melakukan Reklamasi Pascatambang Di Desa Langkapjaya," *SERUMPUN : Journal of Education, Politic, and Social Humaniora* 3, no. 2 (2025): 118–30, https://doi.org/10.61590/srp.v3i2.193.

Mining[2]. This amendment forms part of the government's efforts to strengthen the governance of the mining sector in order to support the acceleration of mineral and coal downstreaming, enhance investment competitiveness, and ensure the availability of raw materials for strategic national industries. Through various refinements concerning the management of mining areas, business licensing, the strengthening of the role of business entities, and the optimization of mineral resource utilization, Mining Law No. 2 of 2025 reflects a shift in policy orientation that no longer focuses solely on the exploitation of natural resources, but also on the creation of a more competitive and sustainable investment climate.

Within the national legal system, the protection of the environment has, in principle, been comprehensively regulated through Law Number 32 of 2009 concerning Environmental Protection and Management (UU PPLH). This law serves as the principal legal instrument establishing various fundamental principles of environmental law, including the preventive principle, the precautionary principle, the polluter pays principle, and the principle of strict liability as the basis for liability for environmental pollution and damage[3]. This position is consistent with the mandate of Article 28H paragraph (1) and Article 33 paragraph (4) of the 1945 Constitution of the Republic of Indonesia, which affirm that environmental protection forms part of the constitutional rights of every citizen and, at the same time, constitutes the foundation for the implementation of sustainable national development[4].

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[2] Muhammad Bayu Nugroho, "Analisis Yuridis Implikasi Undang-Undang Nomor 2 Tahun 2025 Tentang Pertambangan Mineral Dan Batubara (Minerba) Terhadap Kemudahan Izin Usaha Pertambangan Bagi Koperasi Desa Merah Putih Melalui Perspektif Critical Legal Studie," *Ariyah Jurnal Hukum Ekonomis Bisnis* 2, no. 1 (2025): 57–72, https://doi.org/doi.org/10.36908/ariyah.v2i1.1846.

[3] Raynaldo Sembiring et al., *Anotasi Undang- Undang Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup*, ed. Henri Subagiyo, 1st ed. (Jakarta: Indonesian Center for Environmental Law (ICEL), 2014).

[4] Muhammad Fadli et al., "Rewang Rencang : Jurnal Hukum Lex Generalis. Vol.6. No.12 (2025) Tema/Edisi : Hukum Dan Hak Asasi Manusia (Bulan Kedua Belas)

Among the various principles adopted in the UU PPLH, strict liability and the polluter pays principle play a highly important role in building an effective system of environmental liability. The principle of strict liability enables business actors to be held liable for environmental damage or pollution without first having to prove the existence of an element of fault, thereby providing more optimal legal protection for victims as well as for the affected environment[5]. Meanwhile, the polluter pays principle affirms that any party causing pollution or environmental damage is obliged to bear all costs necessary for environmental restoration, including the costs of rehabilitation, restoration, and other forms of ecological recovery[6]. The existence of strict liability and the polluter pays principle constitutes an essential legal instrument to ensure that the economic benefits derived from mining activities are not obtained at the expense of environmental sustainability.

The urgency of applying these two principles has become increasingly apparent in the mining sector, given that mining activities fall into the category of high-risk activities in terms of the occurrence of pollution and environmental damage[7]. The characteristics of mining activities involving the exploitation of non-renewable natural resources, alteration of landscapes, the use of hazardous materials, and the potential for extensive and long-lasting ecological impacts mean that environmental losses are not always easily remedied through a fault-based liability mechanism. Under

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Https://Jhlg.Rewangrencang.Com/," *Rewang Rencang : Jurnal Hukum Lex Generalis* 6, no. 12 (2025): 1–16.

[5] Dinda Riskanita et al., "Meninjau Kembali Konsep Strict Liability Dalam Permasalahan Lingkungan Hidup Di Indonesia," in *Proceeding Legal Symposium*, vol. 6, 2025, 37–45, https://doi.org/doi.org/10.18196/pls.v3i1.138.

[6] Muhamad Muhdar, "Eksistensi Polluter Pays Principle Dalam Pengaturan Hukum Lingkungan Di Indonesia," *Mimbar Hukum - Fakultas Hukum Universitas Gadjah Mada* 21, no. 1 (2022), https://doi.org/10.22146/jmh.16247.

[7] Oktaviani Safitri and Mawarni Safitri, "Manajemen Risiko Pada Sektor Pertambangan Informal," *JURNAL MEDIA AKADEMIK (JMA)* 3, no. 12 (2025), https://doi.org/10.62281.

such conditions, the existence of strict liability and the polluter pays principle becomes a relevant legal instrument to ensure that every environmental risk arising from mining activities remains accompanied by a proportionate obligation of liability and restoration. On this basis, the discussion of environmental liability in the mining sector cannot be conducted merely by examining environmental law and mining law separately. A study is required that analyzes whether the strict liability and polluter pays principles can still be applied effectively following the enactment of Mining Law No. 2 of 2025, as well as the problems arising after the enactment of that law.

Research on strict liability and the polluter pays principle has developed along several lines of inquiry. Some research has focused on the conceptual aspects and application of strict liability through an analysis of Article 88 of Law Number 32 of 2009 concerning Environmental Protection and Management, as well as the consistency of its application in court decisions[8]. Other research has examined the effectiveness of the polluter pays principle in the resolution of environmental disputes through civil, administrative, and criminal mechanisms, including highlighting various obstacles to implementation, such as difficulties in proof, weak institutional coordination, and the as yet suboptimal mechanism for environmental restoration[9]. On the other hand, there are also studies that situate these two principles within the perspective of international environmental law, focusing on the development of international liability instruments and standards[10]. Although these studies make a significant contribution, they

[8] Diah Ayu Rachma and Aditya Mochamad Triwibowo, "Penerapan Prinsip Strict Liability Dalam Implementation Of Strict Liability Principles In," *Jurnal Yudisial* 16, no. 1 (2023): 103–20, https://doi.org/10.29123/jy/v16i1.574.
[9] Rayi Kharisma Rajib and Seloka Amoroso, "Efektivitas Penerapan Prinsip Polluter Pays Dalam Penyelesaian Sengketa Pencemaran Lingkungan Hidup," *Inomatec : Jurnal Inovasi Dan Kajian Multidisipliner Kontemporer* 01, no. 07 (2026): 468–81.
[10] Mazaya Azka Qinthar Haryono and Imam Mulyana, "Perkembangan Prinsip Strict Liability Dan Polluter Pays Dalam Hukum Lingkungan Internasional Mengenai

remain grounded in the regulatory framework established by the UU PPLH and have not yet examined the application of these two principles following the enactment of the new Mining Law. Therefore, this research will examine: (1) How were the Strict Liability and Polluter Pays Principles regulated in Indonesia before and after the enactment of Mining Law No. 2 of 2025? (2) What are the problems and challenges in the application of the Strict Liability and Polluter Pays Principles in the resolution of environmental disputes in the mining sector?

Methods

This research constitutes normative legal research focusing on the study of legal norms, legal principles, and doctrines governing the application of the Strict Liability and Polluter Pays Principles in the resolution of environmental disputes in the mining sector following the enactment of Law Number 2 of 2025 concerning the Fourth Amendment to Law Number 4 of 2009 concerning Mineral and Coal Mining. The approaches employed comprise the statute approach and the conceptual approach. The statute approach is used to examine various statutory and regulatory provisions relating to environmental protection and management as well as the conduct of mining activities, particularly Law Number 32 of 2009 concerning Environmental Protection and Management together with its amendments, Law Number 2 of 2025 concerning the Fourth Amendment to Law Number 4 of 2009 concerning Mineral and Coal Mining, and the relevant implementing regulations.

Further, the conceptual approach is used to examine the concepts, principles, and legal doctrines relating to Strict Liability and the Polluter Pays Principle. The legal materials used consist of primary legal materials and secondary legal materials. The primary legal materials comprise the 1945 Constitution of the Republic of Indonesia, Law Number 32 of 2009

Kecelakaan Dan Pencemaran Dari Kapal Selam Nuklir," *Bina Hukum Lingkungan Indonesia* 9, no. 2 (2025): 159–180, https://doi.org/doi.org/10.24970/bhl.v9i2.402.

concerning Environmental Protection and Management together with its amendments, Law Number 2 of 2025 concerning the Fourth Amendment to Law Number 4 of 2009 concerning Mineral and Coal Mining, other laws and regulations relating to the mining sector and the environment, as well as relevant court decisions.

The secondary legal materials consist of books, scholarly journal articles, research findings, and the doctrines of legal scholars addressing environmental liability, Strict Liability, the Polluter Pays Principle, and mining law. The collection of legal materials was carried out through library research by inventorying, identifying, and classifying the various legal materials in accordance with the focus of the research. Subsequently, all legal materials were analyzed using prescriptive analysis techniques through the interpretation of legal norms and legal argumentation, in order to construct an understanding of the application of the Strict Liability and Polluter Pays Principles in the resolution of environmental disputes in the mining sector following the enactment of Law Number 2 of 2025. The results of the analysis were then used to formulate legal arguments and recommendations concerning the strengthening of synchronization between the environmental law regime and the mining law regime within the Indonesian legal system.

Result and Discussion

1. The Regulation Of The Strict Liability And Polluter Pays Principles In Indonesia Before And After The Enactment Of Mining Law No. 2 Of 2025

Indonesia is a country richly endowed with natural resources, one manifestation of which is found in the mining sector[11]. This condition

[11] Hania Rahma et al., "Fenomena Natural Resource Curse Dalam Pembangunan Wilayah Di Indonesia Fenomena Natural Resource Curse Dalam Pembangunan Wilayah Di Indonesia Pendahuluan," *Jurnal Ekonomi Dan Pembangunan Indonesia* 21, no. 2 (2021), https://doi.org/10.21002/jepi.2021.10.

has driven an increase in industrial activities involving the utilization of natural resources, supported by various government programs aimed at improving the national economy. However, this increase in activity has also given rise to pollution and environmental damage on an increasingly widespread scale. Environmental damage not only gives rise to economic losses, but also threatens the sustainability of ecosystem functions, public health, and the fulfillment of the right to a good and healthy environment[12]. In environmental disputes, the proof of the element of fault frequently encounters various obstacles, given that pollution and environmental damage generally involve complex scientific processes, unfold over extended periods of time, and are influenced by a range of interrelated factors. In addition, the disparity in access to information, technology, and evidence between the community as the aggrieved party and business actors means that liability mechanisms are often unable to provide effective legal protection.

This condition has driven the development of a liability approach that is more risk-oriented (risk-based liability), namely a concept that places the risk inherent in an activity as the basis for the emergence of legal liability. The concept of risk-based liability constitutes a liability mechanism whereby the party that derives economic benefit from an activity must simultaneously bear the legal consequences of the risks inherently posed by that activity[13]. One manifestation of this approach is the development of the Strict Liability principle. Conceptually, Strict Liability constitutes a form of legal liability that imposes an obligation on business actors without requiring proof of an element of fault,

[12] Adam Irfan Naufal, "Interdisciplinary Explorations in Research Tanggung Jawab Dan Kewajiban Negara Terhadap Alam Dan Lingkungan State Responsibilities and Obligations Towards Nature and The Environment," *Interdisciplinary Explorations in Research Journal (IERJ)* 1, no. 1 (2025): 66–75.

[13] Ratna Artha Windari, "Pertanggungjawaban Mutlak (Strict Liability) Dalam Hukum Perlindungan Konsumen," *Jurusan Ilmu Hukum Universitas Pendidikan Ganesha* 1, no. 8 (2015): 108–18.

provided that the elements determined by statutory regulations are satisfied. Accordingly, the primary focus of Strict Liability lies not in whether or not the actor is at fault, but rather in the relationship between the risky activity and the environmental harm it causes.

In addition to Strict Liability, the development of modern environmental law has also given rise to the Polluter Pays Principle as one of the fundamental principles in environmental management[14]. This principle was first developed within the environmental policy of the Organisation for Economic Co-operation and Development (OECD) in the early 1970s and subsequently gained broader recognition through the 1992 Rio Declaration on Environment and Development[15]. The essence of the Polluter Pays Principle is that any party causing pollution or environmental damage is obliged to bear all costs necessary to prevent, control, restore, and remedy the environmental damage it has caused. Accordingly, environmental costs are no longer borne by the state or the community, but are instead internalized into the production costs of the business actor as a consequence of its economic activity.

Conceptually, Strict Liability and the Polluter Pays Principle bear a complementary relationship to one another. Strict Liability functions as the basis for imposing legal liability without requiring proof of fault, whereas the Polluter Pays Principle determines the economic consequences to be borne by the responsible party, whether in the form of compensation payments, environmental restoration costs, or ecological rehabilitation measures[16]. The combination of these two principles reflects a shift in the orientation of environmental law away from an approach that is purely repressive toward one that is also preventive and restorative in nature.

[14] Muhdar, "Eksistensi Polluter Pays Principle Dalam Pengaturan Hukum Lingkungan Di Indonesia."
[15] GV Radhakrishnan, "Polluter Pays Principle: Legal Interpretations And Enforcement Challenges," *IPE Journal of Management* 14, no. 30 (2024): 76–86.
[16] Malvin Edi Darma and Ahmad Redi, "Penerapan Asas Polluter Pay Principle Dan Strict Liability Terhadap Pelaku Pembakaran Hutan," *Jurnal Hukum Adigama* 1, no. 1 (2018): 1–27, https://doi.org/doi.org/10.24912/adigama.v1i1.2236.

These two principles function not only as the basis for liability for pollution and environmental damage, but also as instruments for realizing environmental justice by imposing environmental risks and costs on the party that derives economic benefit from the activity it carries out. It is this philosophical and conceptual foundation that subsequently underlies the regulation of these two principles within the Indonesian environmental legal system, particularly through the UU PPLH regime, before being analyzed further in relation to the changes in the regulation of the mining sector following the enactment of Mining Law No. 2 of 2025.

The Strict Liability principle initially derived its normative basis from Article 88 of the UU PPLH, which provides that any person whose actions involve the use of hazardous and toxic materials (B3), the generation and/or management of B3 waste, or the creation of a serious threat to the environment shall bear strict liability for any resulting harm without the need for proof of an element of fault[17]. Normatively, there are several important elements in the application of Strict Liability under Article 88 of the UU PPLH. First, the existence of an activity legally categorized as a high-risk activity, namely the use of B3, the management of B3 waste, or other activities giving rise to a serious threat to the environment. Second, the occurrence of harm as a result of pollution or environmental damage connected with that activity. Third, liability is imposed on the business actor without requiring proof of the existence of an element of fault (without fault).

Another consequence of the application of Strict Liability is a change in the evidentiary mechanism in environmental disputes. In a conventional civil claim under Article 1365 of the Indonesian Civil Code, the plaintiff is required to prove the existence of an unlawful act, fault, harm, and a causal relationship between the act and the harm arising therefrom. By contrast,

[17] Nor Alfisyahr, "Prinsip Strict Liability Dalam Penyelesaian Sengketa Pencemaran Dan Kerusakan Lingkungan Hidup," *Rewang Rencang : Jurnal Hukum Lex Generalis* 6, no. 11 (2025): 1–18.

under the Strict Liability regime, the element of fault is no longer a requirement that the plaintiff must prove. The purpose of this arrangement is to provide easier access to justice for communities harmed by pollution or environmental damage, given that proving fault in environmental cases often requires complex scientific evidence that lies beyond the capacity of the community. Philosophically, the arrangement under Article 88 also serves a preventive function in addition to a repressive one[18].The threat of liability without proof of fault encourages business actors to apply higher standards of environmental protection from the planning stage, through implementation, to the post-operational stage of their business activities[19]. Accordingly, Strict Liability functions not only as the basis for awarding compensation after damage has occurred, but also as an instrument for encouraging the internalization of environmental risk into business governance.

In addition to establishing the Strict Liability regime, the UU PPLH also adopts the Polluter Pays Principle as the basis for imposing economic liability on the party causing pollution or environmental damage[20]. This principle is reflected in Article 87 of the UU PPLH, which provides that any person responsible for a business and/or activity who commits an unlawful act in the form of pollution or environmental damage is obliged to pay compensation and/or take certain measures as a form of environmental restoration. This provision indicates that the liability of business actors does not stop at the provision of compensation to the aggrieved party, but also encompasses an obligation to restore environmental functions to their

[18] Irene Cristna Silalahi, "Kedudukan Pasal 88 Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan Dan Pengelolaan Lingkungan Hidup Mengenai Strict Liability Terhadap Pelaku Tindak Pidana Perusakan Dan/Atau Pencemaran Lingkungan Hidup (Putusan PT. Palembang Nomor: 51/PDT/2016/PT." (Universitas Sumatera Utara, 2022), http://repositori.usu.ac.id/handle/123456789/6549%0A.

[19] Aviany Yanti and Winda Fitri, "Sanksi Pencemaran Lingkungan Hidup Dalam Undang-Undang Cipta Kerja," *Mulawarman Law Review* 7, no. 1 (2022): 31–48.

[20] Ilma Amalia, Nor Isma, and Devi Noviarani, "Penerapan Prinsip Polluter Pays Dalam Corporate State Responsibility: Perspektif Hukum," *Jurnal Ilmiah Wahana Pendidikan* 11, no. 25 (2025): 66–77, https://jurnal.peneliti.net/index.php/JIWP/article/view/10674.

condition prior to the occurrence of the pollution or damage. The obligation to pay compensation under Article 87 constitutes a manifestation of the principle that environmental costs must be borne by the party causing the pollution (the polluter), rather than being imposed on the community or the state. Accordingly, the Polluter Pays Principle functions to internalize environmental costs into the economic activities of business actors, such that all costs arising from pollution including the costs of environmental restoration and rehabilitation become part of the legal liability of the business actor.

The implementation of this principle also bears a close relationship to the administrative instruments within the UU PPLH. Various administrative obligations, such as environmental approval, supervision, government coercion, suspension of licenses, and revocation of licenses, essentially function as preventive instruments to forestall the occurrence of pollution and environmental damage. However, where pollution nevertheless occurs, these administrative instruments do not eliminate the obligation of the business actor to pay compensation or carry out restoration under Article 87. On the basis of this arrangement, it can be understood that Strict Liability and the Polluter Pays Principle constitute two instruments that serve different but complementary functions within the environmental liability regime established by the UU PPLH. Strict Liability determines the basis for imposing liability without requiring proof of an element of fault in respect of high-risk activities[21]. The Polluter Pays Principle, meanwhile, determines the legal consequences in the form of an obligation to pay compensation and to carry out environmental restoration[22]. The synergy

[21] Subadi Subadi, Ananda Prima Yurista, and Muhammad Buana, "Strict Liability within Indonesia's Environmental Legal System: Examining the Necessity of Its Reintroduction," *Jurnal of Law Environmental and Justice* 4, no. 2 (2026), https://doi.org/doi.org/10.62264/jlej.v4i2.304.

[22] Mikael Adrian Tri Nugroho et al., "Implikasi 'Polluter Pays Principle' Dalam Pertanggungjawaban Pidana Pelaku Usaha Terhadap Pencemaran Lingkungan Melalui Air Limbah," *Reformasi Hukum* 28, no. 1 (2024): 14–23, https://doi.org/doi.org/10.46257/jrh.v28i1.932 Implikasi.

between these two principles demonstrates that the UU PPLH is oriented not only toward imposing liability on the party causing pollution, but also toward the restoration of environmental functions as the principal objective of environmental protection.

It is this normative construction that subsequently serves as the point of departure for assessing whether the policy changes introduced through Mining Law No. 2 of 2025 remain consistent with, or instead pose challenges to, the continuity of the environmental liability regime in Indonesia. The amendment of Law Number 4 of 2009 concerning Mineral and Coal Mining through Law Number 2 of 2025 forms part of the dynamics of national law making directed at aligning mining governance with the demands of contemporary economic development[23]. This amendment is not merely technical in nature with respect to licensing mechanisms and the conduct of mining operations, but also reflects a shift in the state's legal policy orientation regarding the management of mineral and coal resources. Whereas mining regulation in the preceding period was directed primarily toward governance reform in the wake of decentralization, the amendment through Mining Law No. 2 of 2025 reveals a stronger tendency to position the mining sector as a strategic instrument for advancing industrial downstreaming, increasing investment, and strengthening national energy security[24].

One of the principal orientations of the amendment under Mining Law No. 2 of 2025 is the strengthening of the mineral downstreaming policy as

[23] Kaharuddin Kaharuddin et al., "Analisis Perancangan Dan Substansi Undang-Undang Nomor 2 Tahun 2025 Tentang Pertambangan Mineral Dan Batubara Dalam Perspektif Ilmu Perancangan Perundang-Undangan," *Jurnal Pendidikan Tambusai* 9, no. 3 (2025): 36978–36986, https://doi.org/doi.org/10.31004/jptam.v9i3.34321.

[24] Dayandini Hastiti Putri, "Tantangan Dan Peluang Hilirisasi Pertambangan Komoditas Mineral Batubara Menuju Indonesia Emas 2045: Evaluasi Penegakan Hukum Dan Penataan Administrasi Perizinan Tambang.," *Urnal Rechts Vinding Media Pembinaan Hukum Nasional* 14, no. 1 (2025), https://rechtsvinding.bphn.go.id/ejournal/index.php/jrv/article/view/2156.

a strategy for enhancing the added value of natural resources[25]. This policy affirms that mining activities are no longer to be regarded merely as raw material extraction activities, but must instead be integrated with processing, refining, and even the development of manufacturing industries. Through this approach, the government seeks to reduce dependence on the export of raw materials while simultaneously creating greater economic value through increased investment, job creation, technology transfer, and the strengthening of national industry.

This regulatory change is closely connected to the national energy security agenda. In recent years, minerals and coal have been positioned as strategic commodities playing an important role in maintaining the stability of energy supply and supporting the energy transition agenda[26]. On the one hand, coal continues to serve an important function as a domestic energy source, while on the other hand, critical minerals such as nickel, cobalt, and copper have become key components in the development of clean energy technology. Another significant change is evident in the aspect of mining governance. Mining Law No. 2 of 2025 further strengthens the role of the central government in the administration of the mining sector through the consolidation of authority across various stages of management, from the designation of mining areas and the granting of licenses to supervision and the evaluation of the implementation of business activities. This centralization of authority is intended to create more uniform management standards, enhance the effectiveness of supervision, and reduce the potential for policy disharmony between the central and regional

[25] Nur Fadilah Al Idrus, "Dampak Politik Hukum Dan Respon Masyarakat Atas Pembaharuan Undang-Undang Minerba," *Jurnal Penegakan Hukum Dan Keadilan* 3, no. 2 (2022).
[26] Rio Fafen Ciptaswara and Sulistiowati, "Implementasi Hilirisasi Mineral Dan Batu Bara Dalam Rangka Mewujudkan Kedaulatan Energi Dan Daya Saing Industri Nasional," *Mimbar Hukum - Fakultas Hukum Universitas Gadjah Mada* 34, no. 2 (2022): 521–58, https://doi.org/https://doi.org/10.22146/mh.v34i2.3490.

governments[27]. From the perspective of government administration, the strengthening of central government authority is expected to create legal certainty and efficiency in the conduct of mining activities.

In addition to the changes in licensing and governance, Mining Law No. 2 of 2025 continues to maintain the provisions on reclamation obligations and post-mining activities as part of the responsibility of holders of mining business licenses. Reclamation is positioned as an effort to arrange, restore, and improve the environmental quality of land that has been disturbed as a result of mining activities, while post-mining activities are intended to ensure that the cessation of production activities does not leave behind lasting environmental or social impacts[28].This arrangement demonstrates that the aspect of sustainability remains part of mining governance, although its implementation depends heavily on the effectiveness of supervision and law enforcement mechanisms[29].

When compared with the strengthening of regulations concerning downstreaming, investment, and the governance of mining businesses, the amendment through Mining Law No. 2 of 2025 has not exhibited a commensurate strengthening of environmental liability. The principal focus of the amendment has been directed more toward the administrative aspects of the conduct of mining businesses, while the regulation of the legal consequences of pollution and environmental damage continues to rest on the environmental protection regime set out in the UU PPLH[30]. In other words, the Mining Law still positions environmental obligations primarily

[27] Novita Eka Utami, “Sentralisasi Terhadap Kewenangan Pemerintah Daerah Dalam Perizinan Tambang Pasca Pemberlakuan Undang-Undang Mineral Dan Batubara,” *Lex Renaissance* 8, no. 2 (2023): 360–78.

[28] Putri Kemalasari, Nila Trisna, and Dara Quthni Effida, “Tanggung Jawab Pelaksanaan Reklamasi Dan Pasca Tambang Perusahaan Pemegang Iup Operasi Produksi Batubara Berdasarkan Prinsip Good Mining Practice,” *Jurnal Hukum Samudra Keadilan* 18, no. 1827 (2023): 108–20.

[29] Florencia Irena and Mella Ismelina Farma Rahayu, “Regulasi Hukum Lingkungan Dan Jaminan Reklamasi Dalam Industri Pertambangan Di Indonesia,” *Syntax Literate: Jurnal Ilmiah Indonesia* 9, no. 1 (2024).

[30] Gilang Izzuddin Amrullah, “Pertanggungjawaban Pidana Korporasi Dalam Tindak Pidana Pertambangan,” *Jurist-Diction* 2, no. 4 (2019): 1275–86.

in the form of administrative obligations, such as reclamation, post-mining activities, the provision of reclamation guarantees, and compliance with environmental requirements as part of the conduct of mining business activities. This condition indicates that, following the enactment of Mining Law No. 2 of 2025, a shift has occurred in the regulatory orientation of the mining sector toward a greater emphasis on strengthening investment, downstreaming, energy security, and the effectiveness of governance through the centralization of government authority. Although the obligations of reclamation, post-mining activities, and environmental protection continue to be maintained as part of the conduct of mining business activities, the legislative amendment has not explicitly reconstructed the environmental liability framework already established under the UU PPLH[31].

Nevertheless, the shift in the orientation of Mining Law No. 2 of 2025 toward emphasizing the acceleration of investment, downstreaming, and the strengthening of the mining industry has the potential to give rise to challenges in the application of Strict Liability. This is because the regulation of the Mining Law is more dominantly premised on an administrative approach through licensing, supervision, reclamation, and post-mining mechanisms[32]. If this administrative approach is given greater precedence without being accompanied by a strengthening of environmental liability mechanisms, there is a risk that environmental obligations will be understood merely as administrative obligations of the license holder, rather than as a form of legal liability for the ecological damage caused.

[31] Khuszaimah Anggraheni Nur Amalia and Sulistyanta, "Kajian Yuridis Penegakan Hukum Terhadap Penambangan Ilegal Di Kawasan IUP PT Antam Berdasarkan Perspektif Lingkungan Hidup," *Jembatan Hukum: Kajian Ilmu Hukum, Sosial Dan Administrasi Negara* 2, no. 2 (2025): 305–14, https://doi.org/doi.org/10.62383/jembatan.v2i2.1751.
[32] Silfia Silfia, "Penerapan Asas Tanggung Jawab Mutlak Strict Liability Terhadap Perusahaan Tambang Nikel Yang Mengakibatkan Kerusakan Lingkungan," *Dinamika : Jurnal Ilmiah Ilmu Hukum* 32, no. 2 (2026).

Accordingly, the standing of Article 88 of the UU PPLH following the enactment of Mining Law No. 2 of 2025 continues to carry legal force as the basis for strict liability in environmental disputes within the mining sector. However, the effectiveness of its application depends on the capacity of the legal system to harmoniously integrate the mining regime with the environmental protection regime. Unlike the Strict Liability principle, which has an explicit basis in Article 88 of the UU PPLH, the Polluter Pays Principle within the Indonesian legal system is reflected more through the obligation of business actors to bear the costs arising from pollution and environmental damage, as provided under Article 87 of the UU PPLH[33]. This principle remains in force following the enactment of Mining Law No. 2 of 2025, since the amendment of mining regulations does not eliminate the obligation of mining business operators to be held liable for the environmental impacts arising from their activities.

In the context of the mining sector, the application of the Polluter Pays Principle relates not only to the payment of compensation for pollution, but also encompasses the obligation of environmental restoration, including reclamation and post-mining activities[34].This obligation demonstrates that the liability of mining business actors does not stop at the production stage, but extends across the entire cycle of mining activities through to the post-operational stage. Accordingly, the cost of environmental restoration forms part of the economic consequences that must be internalized by business actors as the party deriving benefit from the utilization of natural resources. However, the amendment under Mining Law No. 2 of 2025 indicates that the regulation of environmental liability in the mining sector remains

[33] Kana Kurnia and Lita Herlina, "Penerapan Polluter Pays Principle Dalam Perkara Tumpahan Minyak Di Teluk Kota Balikpapan," *Jurnal Hukum Ius Quia Iustum* 30, no. 3 (2023), https://doi.org/doi.org/10.20885/iustum.vol30.iss3.art5.

[34] Muhammad Khalid Ali, Evi dwi Hastri, and AA Muhammad Insany Rachman, "Asas Pencemar Membayar (Polluter Pays Principle) : Bentuk Pertanggungjawaban Hukum Pelaku Usaha Yang Melanggar Baku Mutu Air Limbah," *Jurnal Panah Keadilan* 2, no. 1 (2023): 52–68, https://jurnal.uniraya.ac.id/index.php/PanahKeadilan/article/view/730.

largely situated within the framework of administrative obligation[35]. The provisions on reclamation, reclamation guarantees, and post-mining activities are oriented more toward compliance with the requirements of mining business licenses. This approach is important as a preventive instrument, but it cannot substitute for the function of the Polluter Pays Principle as the basis for imposing costs for environmental damage that has already occurred. Accordingly, the standing of the Polluter Pays Principle following Mining Law No. 2 of 2025 continues to carry legitimacy as a fundamental principle of environmental liability in the mining sector. However, challenges arise in its implementation owing to the orientation of mining regulation, which places greater emphasis on administrative aspects, investment, and the continuity of business activities.

For this reason, a systematic interpretation is required that positions the Mining Law and the UU PPLH as two sets of rules that complement one another, rather than as rules that stand alone or supersede one another. A problem nevertheless arises where the shift in mining policy through Mining Law No. 2 of 2025 places greater emphasis on the administrative approach through licensing, supervision, reclamation, and post-mining activities, while the mechanism of liability for ecological damage continues to depend on the UU PPLH[36]. This condition has the potential to give rise to an imbalance between the orientation toward the utilization of natural resources and the obligation of environmental protection. In practice, the fulfillment of administrative obligations is often regarded as the principal indicator of corporate compliance, even though administrative compliance does not always indicate the absence of environmental damage. Therefore, the agenda of downstreaming, investment, and energy security that

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[35] Faza Pauzia Hermawan et al., "The Effectiveness of Enforcing the Polluter Pays Principle as an Ecological Restoration Mechanism in Environmental Disputes in Indonesia," *International Journal of Law and Society* 3, no. 2 (2026): 12–22, https://doi.org/doi.org/10.62951/ijls.v3i2.879.

[36] Tri Hayati, "Hak Penguasaan Negara Terhadap Sumber Daya Alam Dan Implikasinya Terhadap Bentuk Pengusahaan Pertambangan," *Jurnal Hukum Dan Pembangunan* 49, no. 3 (2019), https://doi.org/10.21143/jhp.vol49.no3.2199.

constitutes the principal objective of the Mining Law must nevertheless operate within the constitutional limits of natural resource management, namely utilization that generates economic benefit while at the same time preserving the sustainability of environmental functions[37]. Accordingly, the application of Strict Liability and the Polluter Pays Principle becomes an important instrument for ensuring that the acceleration of development in the mining sector does not produce environmental externalities that are imposed on the community and the state.

2. Problems In The Application Of The Strict Liability And Polluter Pays Principles In The Resolution Of Environmental Disputes In The Mining Sector Following Mining Law No. 2 Of 2025

The Strict Liability principle has obtained a legal basis through Article 88 of the UU PPLH, yet its application in the resolution of environmental disputes in the mining sector continues to face various problems[38]. The increasingly larger scale of mining activities naturally gives rise to correspondingly greater potential environmental risks that must be controlled. Therefore, the increase in mining activity must be accompanied by a strengthening of environmental liability mechanisms so that the principle of sustainable development can continue to be realized. The principal problem in the application of Strict Liability in the mining sector following Mining Law No. 2 of 2025 is the as yet suboptimal construction of the application of that norm in relation to the risk characteristics of the mining industry. Therefore, legal rules are required that are capable of positioning the Strict Liability principle as an effective instrument of environmental protection not merely as a

[37] Muhammad Kandriana, "Evaluasi Implementasi Pasal 33 UUD 1945 Terhadap Pengelolaan Kekayaan Alam Nasional," *Rewang Rencang : Jurnal Hukum Lex Generalis* 6, no. 11 (2025), https://doi.org/doi.org/10.56370/jhlg.v6i11.2749.

[38] Abdul Rokhim, "Degradasi Norma 'Strict Liability' Dalam Penegakan Hukum Lingkungan," *Yurispruden Jurnal Fakultas Hukum Universitas Islam Malang* 5, no. 193 (2022): 178–95, https://doi.org/10.33474/yur.v5i2.14627.

norm of liability after damage has occurred, but also as a preventive mechanism against business activities that carry high ecological risk[39].

The change in the regulation of the mining sector through Mining Law No. 2 of 2025 reflects a strengthening of policy orientation toward the acceleration of investment, mineral downstreaming, and the development of natural resource based industries. Within this framework, mining regulation is directed more toward aspects of business governance, regulatory simplification, the strengthening of government authority, and the enhancement of productivity in the mineral and coal sector. Although this policy direction has strategic economic objectives, this change also gives rise to challenges regarding how the principle of environmental liability continues to be positioned as a central component of the conduct of mining activities. One of the problems that arises is the increasing dominance of the administrative approach in controlling mining activities. Under the Mining Law regime, the environmental liability of mining business operators is largely realized through administrative instruments, such as the fulfillment of environmental requirements, the implementation of reclamation, the provision of reclamation guarantees, and post-mining obligations. These instruments essentially constitute a form of preventive environmental regulation intended to ensure that mining activities are conducted in accordance with the standards established by the state[40].

[39] Rafli Ramdani, Chandra Devaraihan Wahyudi, and Sultan Novaliyana Putra, "Pertanggungjawaban Pidana Korporasi Atas Pencemaran Dan Perusakan Lingkungan: Studi Normatif Terhadap Prinsip Strict Liability Di Indonesia," *Custodia: Journal of Legal, Political, and Humanistic Inquiry* 1, no. 2 (2025): 278–86.

[40] Cindyana Ratnasari, "Penegakan Hukum Lingkungan Hidup Melalui Instrumen Hukum Administrasi Dan Hukum Pidana Terhadap Korporasi Yang Tidak Melakukan Reklamasi Pasca Tambang (Studi Kasus Reklamasi Tambang Timah Di Daerah Bangka Provinsi Bangka Belitung)," *Litra: Jurnal Hukum Lingkungan, Tata Ruang Dan Agraria* 3, no. 2 (2024), https://doi.org/doi.org/10.24198/litra.v3i2.947.

However, this administrative approach has limitations when positioned as the sole form of environmental liability. Compliance with mining business licenses, the fulfillment of environmental documentation, and the implementation of reclamation obligations do not always indicate that mining activities have caused no ecological damage[41]. Under certain conditions, a business activity may continue to fulfill its administrative obligations while nevertheless producing broader environmental impacts, such as water pollution, ecosystem damage, the loss of the ecological functions of an area, or disruption to the lives of communities surrounding the mine. From the perspective of environmental law, administrative obligation and environmental liability possess different characters. Administrative obligation is aimed at controlling the conduct of business actors before or during the course of an activity, whereas the Strict Liability and Polluter Pays principles function to ensure the existence of legal liability once an activity has caused pollution or environmental damage. Accordingly, the fulfillment of administrative obligations under the mining regime cannot be understood as a substitute for liability under the UU PPLH. This condition becomes significant for the application of Strict Liability and the Polluter Pays Principle. Both principles entail full and strict liability and require that the costs arising from pollution and environmental damage not be shifted onto the community or the state, but instead be imposed on the party that derives benefit from the activity giving rise to the environmental risk[42]. If environmental obligation in the mining sector is understood merely as the payment of a reclamation guarantee

[41] Hary Oktafiana, Rivia Ridwan, and Dewi Asri Puannandini, "Efektivitas Instrumen Hukum Lingkungan Dalam [Pengendalian Pencemaran Industri]. Jurnal Penelitian Dan Pengembangan Ilmu Manajemen Dan Bisnis (JPPIMB), 2024/2025.," *Jurnal Pendidikan Tambusai* 9, no. 2 (2025): 28451–28458., https://doi.org/doi.org/10.31004/jptam.v9i2.31493.

[42] La Ode Mbunai and Fitrah Rahmadani, "Hilirisasi Pertambangan Sebagai Instrumen Investasi Berkelanjutan Dalam Perpanjangan Wilayah Izin Usaha Pertambangan Khusus (WIUPK)," *Indonesian Journal of Multidisciplinary on Social and Technology* 4, no. 2 (2026): 52–59.

or the fulfillment of administrative requirements, there is a risk that these principles will lose their principal function. Therefore, the application of the Strict Liability and Polluter Pays principles following Mining Law No. 2 of 2025 must be positioned as a corrective mechanism that complements the administrative approach within mining governance. Under this construction, the acceleration of investment and mineral downstreaming can continue to proceed, without thereby eliminating the principle that every business actor deriving benefit from the utilization of natural resources must also bear liability for the ecological risk it generates.

The Polluter Pays Principle essentially positions the business actor as the party responsible for bearing all costs arising from the pollution and environmental damage produced by its activities. This principle is aimed not only at providing compensation for losses suffered by the community, but also at ensuring the restoration of environmental functions that have been damaged. In the context of mining, the application of this principle carries significant importance, since mining activities produce ecological impacts that are not only direct in nature but may also persist over the long term[43]. However, the implementation of the Polluter Pays Principle in the resolution of environmental disputes in the mining sector continues to face various problems. One of the principal problems is the tendency to construe this principle narrowly, as merely an obligation to pay financial compensation to the aggrieved party. In fact, environmental damage possesses a character different from that of ordinary economic loss, as it involves the loss of ecological functions that cannot always be restored simply through the payment of a sum of money.

[43] Nugroho et al., "Implikasi 'Polluter Pays Principle' Dalam Pertanggungjawaban Pidana Pelaku Usaha Terhadap Pencemaran Lingkungan Melalui Air Limbah."

In environmental cases within the mining sector, the form of liability should not stop at the payment of compensation, but should also encompass the costs of environmental restoration, ecosystem rehabilitation, the restoration of water and soil quality, and other measures necessary to return environmental conditions to something approaching their original state. In addition, the relationship between the reclamation and post-mining obligations under the Mining Law and the Polluter Pays Principle is likewise an important issue. The reclamation and post-mining obligations constitute preventive instruments that must be carried out by holders of mining business licenses. However, these obligations cannot be regarded as a form of liability that supersedes the entirety of the costs of environmental damage. Where mining activities give rise to pollution or damage extending beyond the scope of the planned reclamation, the business actor continues to bear an additional obligation under the Polluter Pays Principle set out in the UU PPLH[44]. Therefore, following the enactment of Mining Law No. 2 of 2025, the application of Strict Liability and the Polluter Pays Principle needs to be strengthened through an approach that is not merely administrative but also ecological. This approach is important so that downstreaming policy and the utilization of mineral resources can continue to operate within the corridor of sustainable development, ensuring that the economic gains from mining activities are not obtained by shifting the costs of environmental damage onto the community and the state[45]. The principal challenge that arises is how to maintain a balance between economic interests and the obligation of environmental protection. Mining activities possess the character of

[44] M. Alfami Syafultra, Vina Ayu Havivah, and M. Alvin Sandjaya, "Implikasi Hukum Pengabaian Reklamasi Dan Tata Ruang Pada PT Ratu Samban Mining," *Jurnal Kajian Hukum Dan Kebijakan Publik* 3, no. 1 (2025), https://doi.org/doi.org/10.62379/.

[45] Ghina Nisrina, Yunita Sarah Rosalinda, and Sang Ayu Putu Rahayu, "Harmonisasi Hukum Investasi Hijau Dan Kepastian Perizinan Berbasis Risiko Melalui Sistem OSS-RBA Pasca Undang-Undang Cipta Kerja," *Jurnal Ilmiah Nusantara* 3, no. 3 (2026), https://doi.org/doi.org/10.61722/jinu.v3i3.9885.

high-risk activities capable of causing long-term impacts on ecosystems. Therefore, the acceleration of investment cannot be understood as a justification for lowering the standard of environmental liability imposed on business actors.

In this context, the application of the Strict Liability and Polluter Pays principles functions as a controlling instrument to ensure that the economic gains from mining activities are not obtained by imposing ecological costs on the community and the state. These two principles ensure that the party deriving benefit from mining activities also bears the environmental risks and consequences that it generates. Accordingly, the challenge following Mining Law No. 2 of 2025 lies in the capacity of the legal system to integrate the two. Mining policy must continue to be directed toward the utilization of natural resources in a manner that generates economic benefit while also guaranteeing the sustainability of environmental functions for present and future generations. Therefore, a model of application is required that positions these two principles as mutually complementary instruments. Strict Liability must be strengthened as a risk-based liability mechanism for mining activities with the potential to cause serious environmental impacts, while the Polluter Pays Principle must be directed toward imposing all environmental costs, including the costs of ecological restoration, rather than merely the payment of compensation[46].

With this construction, the regulation of mining following Mining Law No. 2 of 2025 must be understood in an integrated manner together with the UU PPLH. The approach to economic development through the mining sector can continue to proceed, but must be bounded by the

[46] Bima Pratama, Rani Putri, and Sari Lestari, "Pertanggungjawaban Pidana Korporasi Dalam Tindak Pidana Lingkungan: Analisis Penerapan Kuhp Nasional 2023 Terhadap Industri Pertambangan Mineral Dan Batubara," *Legal Note* 2, no. 1 (2026): 25–33, https://doi.org/doi.org/10.70716/legalnote.v2i1.196.

principle that the utilization of natural resources carries with it a consequential responsibility for environmental sustainability. Accordingly, the strengthening of the application of Strict Liability and the Polluter Pays Principle becomes an important instrument for ensuring that the agenda of investment and downstreaming in the mining sector does not diminish the standard of environmental protection and remains consistent with the principle of sustainable development.

Conclusion

The regulation of the Strict Liability and Polluter Pays principles within Indonesian environmental law following the enactment of Mining Law No. 2 of 2025 remains, normatively, grounded in the UU PPLH as the general regime for environmental protection. Mining Law No. 2 of 2025 does not abolish or supersede the environmental liability mechanism, but instead regulates the governance aspects of mining activities. Accordingly, the Strict Liability principle under Article 88 of the UU PPLH remains applicable to mining business actors who cause pollution or environmental damage, while the Polluter Pays Principle continues to serve as the basis for imposing the costs of compensation and environmental restoration. The relationship between these two legal regimes must be understood systematically, whereby the Mining Law functions as an instrument for controlling mining activities, while the UU PPLH serves as the basis for liability for the environmental impacts caused.

The application of the Strict Liability and Polluter Pays principles in the resolution of environmental disputes in the mining sector continues to face various challenges, particularly in terms of implementation. These problems include the lack of clarity in the application of Strict Liability, as well as the as yet suboptimal application of the Polluter Pays Principle as an instrument of ecological restoration. Following Mining Law No. 2 of 2025, the principal challenge lies not in the absence of a legal basis, but rather in the need to ensure that the orientation toward investment, downstreaming, and development in the mining sector continues to operate within the limits of environmental protection.

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