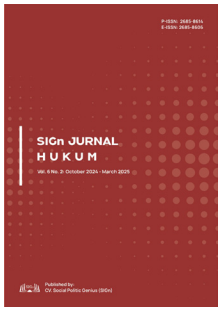

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Article Title

The Paradox of Mineral Downstreaming: An Economic Analysis of Mining Regulatory Disharmony in Indonesia

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ABSTRACT

Although Indonesia's mineral downstreaming policy aims to enhance value added, its implementation is impeded by fundamental regulatory disharmony. This study aims to evaluate the legal framework of the downstreaming policy to identify inconsistencies and to examine its substantive provisions from an EAL perspective. Employing an interdisciplinary legal research method, this study applies a RIA framework to analyze secondary data comprising statutory instruments and relevant literature. The findings reveal that the policy's legal framework, while vertically coherent, suffers from severe horizontal disharmony with environmental and spatial planning laws. This disharmony is proven to create significant economic inefficiencies, negative externalities, and high-cost legal uncertainty. The study concludes that active regulatory intervention is a necessity. Therefore, a multi-track strategy is recommended: first, the issuance of precise implementing regulations as a short-term solution; second, the parallel strengthening of non-regulatory interventions; and third, a long-term legislative harmonization agenda.

Keywords: *EAL; Mineral Downstreaming; Mining Law; Regulatory Disharmony; RIA.*

INTRODUCTION

Indonesia is endowed with abundant mineral resources, a strategic potential that serves as a cornerstone for national economic development (Tui & Adachi, 2021). The management of this natural wealth is constitutionally enshrined in Article 33 section (2) and section (3) of the 1945 Constitution. These provisions mandate that the state controls vital production sectors and natural resources to ensure the greatest possible prosperity for the people. This mandate is philosophically congruent with the principle of utilitarianism, introduced by Bentham (2000), which posits that all public actions and policies should be measured by their capacity to generate the greatest good for the greatest number. Consequently, the utilization of mineral resources cannot be viewed merely as an extractive activity but must be regarded as a juridical and economic instrument for achieving sustainable social welfare (Wondal et al., 2024).

As a manifestation of this constitutional mandate, the Indonesian Government initiated a mineral downstreaming policy. This policy represents a transformative step aimed at shifting the nation's economic paradigm from an exporter of raw materials to a producer of high-value-added processed products (Wau et al., 2024). Central to this policy is the concept of value creation. By definition, value added is the differential between the final product's sale price and the total cost of inputs used in its production (Lazuardi et al., 2024). By extending the domestic processing chain, this policy not only has the potential to increase state revenue significantly but also to simultaneously bolster national industrial competitiveness in an increasingly competitive global marketplace (Islam et al., 2024).

The legal mandate to implement mineral downstreaming is explicitly stipulated in Article 103 of Law Number 3 of 2020. This obligation is further reinforced within

the long-term development framework, as regulated in Article 7 section (3) point e of Law Number 59 of 2024, which positions downstreaming as a primary pillar of economic transformation. Strategically, this policy is perceived as a critical solution for Indonesia to escape two economic traps that threaten resource-rich nations: the middle-income trap and the natural resource curse (Prasetiani et al., 2024). The latter refers to a paradoxical phenomenon where an abundance of natural resources correlates with sluggish economic growth (Stiglitz, 2005).

Nevertheless, the implementation of this ambitious downstreaming policy has given rise to a series of complex challenges and paradoxes. At the international level, the raw mineral export ban, a key instrument of the policy, was challenged for allegedly contravening the non-discrimination principle under Article X(1) of the GATT (Prasetya & Hamka, 2023). This dispute culminated in a ruling against Indonesia at the World Trade Organization (WTO), where the policy was deemed premature (Krustiyati & Gea, 2023). Domestically, the period from 2022 to 2024 was marked by an escalation of agrarian conflicts, including land dispossession and restricted community access. Furthermore, the ensuing environmental impact has come under intense scrutiny, with over 80,000 unreclaimed mining pits posing ecological and safety threats to local communities (Nahar, 2025; Pattynama, 2025).

These issues indicate a fundamental tension between the economic objectives of the downstreaming policy and its social and environmental pillars. A report from Global Energy Monitor and the Centre for Research on Energy and Clean Air quantifies this impact, projecting that the mineral processing sector will generate an economic burden from pollution amounting to IDR 40.7 trillion annually by 2025 (Parapat & Hasan, 2023). This phenomenon demonstrates that while the downstreaming policy was designed to foster prosperity, its implementation has produced significant negative externalities. This situation highlights the relevance of the rule of law and development theory, which asserts that development can only succeed if supported by a just, consistent, and effectively enforced legal framework that balances competing interests.

In academic discourse, the mineral downstreaming policy has been a subject of study across various disciplines. A bibliometric analysis by Khoiro (2024) reveals a surge in research from 2001 to 2024, but identifies that policy aspects have not been systematically examined. Other studies tend to be partial in scope. For instance, the study by Wau et al. (2024) focuses primarily on economic implications without deeply integrating social and environmental impacts. Meanwhile, a comparative study by Wijaya and Suwanan (2024) contrasts Indonesia's policy with that of other nations, and a legal analysis by Siombo (2023) does not conduct a holistic synchronization of regulations. These studies, while valuable, have not critically evaluated the efficiency and impact of the legal instruments themselves.

Building upon these limitations, this research identifies a significant analytical gap: the minimal application of the Economic Analysis of Law (EAL) perspective in evaluating Indonesia's mineral downstreaming policy. The EAL perspective offers novelty by viewing law not merely as a set of norms but as a system of incentives that produces economic consequences. The originality of this research lies in its use of EAL to argue that specific articles within mining regulations, despite being juridically valid, may create economic inefficiencies, regulatory disharmony, and negative externalities that impede the policy's ultimate objectives. Its scholarly contribution is to provide an efficiency-based evaluation framework that can be adopted by legislators and policymakers.

Based on the elaborated background, problem identification, and research gap, this study has several objectives. *First*, it aims to evaluate the legal framework of Indonesia's mineral downstreaming policy to identify potential disharmony and inconsistencies. *Second*, it seeks to critically examine the regulatory scope and substance of the downstreaming policy from an EAL perspective to formulate more efficient policy alternatives. In practical terms, this research is expected to provide evidence-based policy recommendations to the Government and the House of Representatives for regulatory refinement. Furthermore, it is intended to serve as an academic reference that enriches the field of legal scholarship, particularly in the study of law and economics in Indonesia.

METHOD

This study employs an interdisciplinary legal research paradigm that integrates normative legal analysis with the EAL perspective. This approach was selected because the research objective extends beyond a mere description of legal norms to an evaluation of the efficiency and economic impacts of mineral downstreaming regulations (Qamar & Rezah, 2020). Specifically, the study applies a statute approach to dissect the hierarchy and substance of relevant regulations systematically. Additionally, a conceptual approach is utilized to analyze key concepts such as value added, regulatory disharmony, and policy efficiency. This study is qualitative in nature, with data analyzed non-numerically to generate an in-depth understanding of the legal phenomena under investigation (McConville & Chui, 2017).

The data sources for this research consist of secondary data obtained through literature review and documentation techniques (Sampara & Husen, 2016). These data are classified into three categories. *First*, primary legal materials, which constitute the main object of analysis, include statutory instruments ranging from the constitutional to the technical level, such as the 1945 Constitution, Law Number 4 of 2009 on Mineral and Coal Mining (Mining Law)[1], Law Number 32 of 2009 on Environmental

[1]Law Number 4 of 2009, as amended several times, lastly by Law Number 2 of 2025.

Protection and Management (Environmental Law)[2], Law Number 26 of 2007 on Spatial Planning (Spatial Planning Law)[3], and their relevant implementing regulations. *Second*, secondary legal materials are employed to refine the analysis. These materials encompass academic literature, textbooks, reputable scientific journals in law and economics, previous research findings, and reports from credible institutions like the Global Energy Monitor. *Third*, tertiary legal materials, such as legal dictionaries and encyclopedias, are used as supplementary resources to provide clarification on technical terms or concepts.

The data analysis process is systematically designed to address the research objectives comprehensively (Irwansyah, 2020). The initial stage involves a descriptive-qualitative analysis, which includes data collection, data reduction by selecting relevant information, data presentation in narrative and tabular formats, and the drawing of preliminary conclusions (Sugiyono, 2012). However, to conduct a critical evaluation, this study employs two advanced analytical frameworks. To address the first research objective, a "regulatory touchstone" framework developed by Sugiarto (2023) is utilized to assess the legal framework in terms of legality, necessity, and utility. Subsequently, to address the second research objective, the Regulatory Impact Assessment (RIA) framework is employed as a primary instrument from the EAL perspective. The analysis based on the RIA framework focuses on four fundamental aspects: *first*, the identification of policy targets; *second*, the evaluation of the regulator's role and intervention alternatives (regulation, non-regulation, or the "do nothing" option); *third*, the formulation of policy mandates; and *fourth*, the analysis of the consequences of each proposed policy alternative. This combination of methods enables the research not only to map the legal landscape but also to critically assess the impacts and efficiency of Indonesia's mineral downstreaming policy.

RESULTS AND DISCUSSION

A. Analysis of the Legal Framework and Identification of Regulatory Disharmony in Mineral Downstreaming

1. Mapping the Regulatory Landscape: A Vertical and Horizontal Synchronization Analysis

To address the first research objective, a fundamental step is to map and analyze the legal architecture that underpins Indonesia's mineral downstreaming policy. This process of mapping the legal framework serves as an initial diagnostic stage to understand the coherence and potential friction

[2]Law Number 32 of 2009, as amended by Article 22 of Government Regulation in Lieu of Law Number 2 of 2022.
[3]Law Number 26 of 2007, as amended by Article 17 of Government Regulation in Lieu of Law Number 2 of 2022.

within the existing regulatory system (Septiani et al., 2024). The analysis is conducted through two primary lenses. *First*, vertical synchronization, which examines the alignment between regulations at a higher level and those subordinate to them. *Second*, horizontal synchronization, which assesses the consistency among regulations at an equivalent level. This approach is essential to identify whether the downstreaming policy is supported by a solid legal foundation or is, conversely, hindered by overlapping and conflicting norms.

Vertically, the legal framework for the downstreaming policy appears to be aligned and coherent. Its supreme basis lies in Article 33 section (2) through section (4) of the 1945 Constitution. This article explicitly mandates the state to manage natural resources for the greatest prosperity of the people, adhering to principles of equitable and sustainable efficiency. This constitutional mandate is then directly delegated to the Mining Law as the specific law (*lex specialis*) for the mining sector. The legal principle that a higher law supersedes a lower one (*lex superior derogat legi inferiori*) appears to be effectively applied. The spirit and intent of Article 33 of the 1945 Constitution are clearly reflected in both the considerations and the substantive articles of the Mining Law, such as the value-added obligations stipulated in Article 102 and Article 103 of Law Number 3 of 2020.

This vertical alignment continues down to the level of implementing regulations. Various Government Regulations and Ministerial Regulations that have been issued, such as Government Regulation Number 96 of 2021[4] and MEMR Regulation Number 6 of 2024[5], explicitly function as technical guidelines for the mandates of the Mining Law. This regulatory chain of command—from the 1945 Constitution and the Mining Law down to the technical regulations—demonstrates a formally well-ordered hierarchical structure. Adherence to these principles of statutory formation projects an image that, from a hierarchical perspective, the downstreaming policy possesses a strong and unbroken basis of legality.

Nevertheless, public policy does not operate in a vacuum. A horizontal synchronization analysis, which examines the relationship between the Mining Law and other sectoral laws, reveals significant potential for disharmony. To systematically visualize these inter-regulatory interactions, a mapping of the legal framework is presented in the following table, adapted from the methodology of Hidayat et al. (2024).

[4]Government Regulation Number 96 of 2021, as amended by Government Regulation Number 25 of 2024.

[5]MEMR Regulation Number 6 of 2024, as amended by MEMR Regulation Number 6 of 2025.

Table 1. Legal Framework

No.	Legislation	Article(s)	Principle
1.	The 1945 Constitution	Article 33 section (2) and section (3)	Principle of natural resource sovereignty
		Article 33 section (4)	Principle of collectivity, equitable efficiency, sustainability, environmental insight, self-reliance, and maintaining the balance of national economic progress and unity.
		Article 33 section (5)	Prinsip open legal policy.
2.	GATT (ratified by Law Number 7 of 1994)	Article I(1)	Principle of non-discrimination or most-favoured-nation (MFN).
		Article XI(1)	Principle of the prohibition of quantitative restrictions.
3.	UNFCCC (ratified by Law Number 6 of 1994)	Article 3(1)	Principle of common but differentiated responsibilities (CBDR).
4.	Law Number 59 of 2024	Article 7 section (3) point b	Principle of value added in economic transformation.
5.	Law Number 4 of 2009	Article 2	Principles of benefit, justice, and balance; partiality to national interests; participation, transparency, and accountability; sustainability and environmental insight.
	Law Number 3 of 2020	Article 4	Principle of the people's prosperity.
		Article 36	Principle of licensing efficiency.
		Article 102 section (1) and section (3); and Article 103	Principle of value added.
	Law Number 2 of 2025	Article 5 section (3)	Principle of domestic market obligation.
6.	Law Number 23 of 2014	Article 12 section (3); Article 13 section (2) point d and point e, and section (3) point d; Article 14 section (1); and Article 15 section (4)	Principle of governmental affairs (decentralization).
7.	Law Number 32 of 2009	Article 12	Principle of benefit.
		Article 15; Article 22 section (1); Article 47 section (1); and Article 48	Precautionary principle and sustainable development.
8.	Law Number 25 of 2007	Article 3 point d; and Article 6	Principle of equal treatment and non-discrimination based on country of origin.
		Article 3 point h; and Article 16 point b	Principle of environmental insight.
		Article 15	Principles of good corporate governance, and corporate social and environmental responsibility obligations.
		Article 17	Principle of sustainable development.
9.	Law Number 26 of 2007	Article 5	Principle of strategic area value.

No.	Legislation	Article(s)	Principle
10.	Law Number 5 of 1960	Article 14 section (1), point e	Principle of sustainability.
		Article 8	Principle of horizontal separation.
11.	Government Regulation Number 25 of 2024	Article 56, and Article 111	Principle of value added.
		Article 83A	Principle of community welfare.
		Article 195A; and Article 195B	Principle of investment certainty.
12.	Government Regulation Number 78 of 2010	Article 3 and Article 4	Principles of environmental protection and management, occupational health and safety, and mineral and coal conservation.
13.	Presidential Regulation Number 77 of 2024	Article 2	Principle of environmental sustainability.
14.	MEMR Regulation Number 6 of 2024	Article 6	Principle of export dispensation.
	MEMR Regulation Number 6 of 2025	Article 2A	
15.	MEMR Regulation Number 26 of 2018	Article 3 section (2); Article 4 section (2); and Article 29 section (1) and section (2)	Principles of transparency, accountability, responsibility, independence, and fairness.
16.	Trade Minister Regulation Number 10 of 2024	Article 6	Principle of export prohibition.

Source: Secondary Data, 2025.

Based on the mapping in Table 1, several points of harmony can be identified. Vertically, the principles of the Mining Law and its amendments can be assessed as aligned with Article 33 of the 1945 Constitution. Horizontally, the Mining Law exhibits strong synergy with Law Number 59 of 2024, as both promote economic transformation based on value addition. There is also alignment with Law Number 25 of 2007[6], which aims to create a conducive investment climate. However, this horizontal harmony is not absolute. A deeper analysis reveals fundamental friction and clashes of principle between the Mining Law and two other crucial sectoral laws: the Environmental Law and the Spatial Planning Law.

The most acute disharmony occurs between the mining law regime and the environmental law regime. The Mining Law, with its emphasis on investment certainty and exploitation, adopts principles oriented toward resource utilization. Conversely, the Environmental Law is built upon the foundations of the precautionary principle, sustainable development, and strict liability for polluters. This philosophical clash gives rise to concrete normative conflicts, which will be further analyzed in the following sub-section. A similar

[6]Law Number 25 of 2007, as amended by Article 77 of Government Regulation in Lieu of Law Number 2 of 2022.

conflict exists with the Spatial Planning Law. This law adheres to the principle of flexibility and periodic review of spatial plans, a principle that directly conflicts with the guarantee of spatial certainty afforded by the Mining Law to permit holders.

At the international level, the legal framework for downstreaming also faces challenges. The raw mineral export ban, a primary policy instrument, is considered to contravene the principle of the prohibition of quantitative restrictions under Article XI(1) of the GATT. Indonesia's loss in the WTO dispute (Krustiyati & Gea, 2023; Prasetya & Hamka, 2023) serves as empirical evidence that a domestic policy, despite its laudable economic objectives, cannot disregard the international trade law regime it has ratified. It confirms that the effectiveness of the downstreaming policy depends not only on the strength of internal regulations but also on its ability to align with international commitments. Thus, this mapping concludes that although the legal framework for Indonesia's mineral downstreaming appears robust vertically, it suffers from severe fractures at the horizontal and international levels. These fracture points are the focus of the subsequent analysis to identify potential inefficiencies and formulate more comprehensive policy solutions.

2. Substantive Regulatory Analysis: Identifying Vulnerable Points and Potential Normative Conflicts

Following the mapping of the regulatory landscape, the analysis proceeds to a substantive examination of the Mining Law as the specific law (*lex specialis*) that forms the epicenter of the downstreaming policy. This stage aims to dissect the substance of the law to precisely identify vulnerable points and potential normative conflicts that could impede the policy's effectiveness. To achieve this, the "regulatory touchstone" framework developed by Sugiarto (2023) is employed. This framework evaluates a regulation across three fundamental dimensions: the legal aspect (legality and coherence), the necessity aspect (urgency and relevance), and the utility aspect (positive impacts and efficiency).

From the legal aspect, the formal legitimacy of the Mining Law is indeed irrefutable, as it is a direct derivative of the constitutional mandate. However, the quality of its legislative process invites critical questions. The enactment of Law Number 2 of 2025 through the open cumulative mechanism, which fast-tracked revisions outside the priority National Legislation Program (Prolegnas), indicates a perceived urgency from the Government and the House of Representatives. However, this speed was achieved at the cost of

meaningful public participation, a prerequisite mandated by Article 96 of Law Number 13 of 2022. The absence of participation—encompassing the right to be heard, considered, and receive explanations—potentially weakens the sociological legitimacy of the regulation and may trigger resistance during implementation. More crucially, this substantive analysis confirms the normative disharmony identified during the mapping stage. A direct conflict exists between the guarantee against spatial plan alterations in the Mining Law and the principle of flexible periodic review of spatial plans every five years under the Spatial Planning Law. The most acute friction is found with the Environmental Law, where the obligation for reclamation and/or post-mining activities in the Mining Law appears to offer an option, whereas the Environmental Law demands a cumulative and inseparable responsibility for environmental restoration.

Next, from the necessity aspect, the urgency to regulate mineral downstreaming is indeed very high. This policy is a strategic instrument to avert the natural resource curse, a phenomenon documented across various regions of Indonesia where abundant natural wealth has failed to significantly raise welfare levels (Stiglitz, 2005; Rahma et al., 2021). By promoting domestic processing, this regulation theoretically addresses the need to increase commodity value, strengthen industrial structure, and reduce the volatility of state revenue dependent on raw material exports. The regulation also promises social benefits through local economic empowerment, labor absorption around industrial areas and smelters, and funding contributions to the education sector. However, this promise of utility is confronted by a paradox. If the regulation designed to meet these needs contains substantial flaws, it could conversely obstruct the achievement of national development goals. Legal uncertainty arising from ambiguous or conflicting norms can create an unconducive investment climate, trigger social conflicts, and ultimately betray the rule of law and development principle that underpins sustainable development. The failure to apply the principles of smart regulation—which demand evidence-based, participatory, and adaptive policymaking (Gunningham & Sinclair, 2017)—puts the Mining Law at risk of becoming a blunt instrument.

Finally, from the utility aspect, the downstreaming regulation faces a complex cost-benefit calculation. On one hand, there is the potential for immense economic benefits, such as increased export value, a strengthened trade balance, and higher state revenue from taxes and Non-Tax State Revenue (PNBP) (Prasetiani et al., 2024; Pattynama, 2025). The development of the processing industry also creates a multiplier effect for the local economy. On the other hand, there are costs to be borne. Fiscally, accelerating downstreaming

could burden the state budget (APBN), as indicated in Article 3 point e of Presidential Decision Number 1 of 2025, which allows for financing options through state funds. However, the more significant costs manifest as negative externalities—namely, the environmental degradation and social conflicts that are often unquantified in conventional policy analysis. The substantial economic benefits will only materialize if these social and environmental costs can be minimized through a robust and effective legal framework.

Overall, this substantive analysis concludes that the Mining Law rests on a paradoxical foundation. *De jure*, it possesses strong legality and addresses a strategic national need. However, *de facto*, its substance contains several significant vulnerable points. These vulnerabilities include a legislative process lacking participation, normative disharmony with other sectoral laws, and the potential for multiple interpretations that can weaken law enforcement. These very points become the object of the subsequent analysis. The question is no longer merely "is this norm valid?" but rather "what are the economic impacts of this flawed norm?" Accordingly, the analysis must shift from a mere juridical diagnosis to an efficiency-based evaluation using the instruments of the EAL perspective, which will be discussed in depth in the following chapter.

B. Regulatory Impact Assessment from an Economic Analysis of Law Perspective and Policy Alternatives

Before evaluating the impact of the problematic regulations, it is essential to reiterate the ideal targets that the downstreaming policy aims to achieve. The regulation of mineral downstreaming is directed at transforming Indonesia from a producer of raw materials into an advanced industrial nation. The objective is to enable the processing of minerals into high-value products, thereby fostering sustainable economic growth and positively impacting public welfare (Sitohang et al., 2025). This policy inherently targets the achievement of interrelated, multidimensional objectives. From an economic standpoint, the primary target is the enhancement of value added to strengthen industrial competitiveness, curb imports, and create national energy independence (Tan, 2022). From a social perspective, the policy targets equitable welfare distribution through job creation and human resource development (Wau et al., 2024). Meanwhile, from an environmental perspective, the target is to ensure that this development process is sustainable by mitigating the negative impacts of mining (Wondal et al., 2024). These ideal targets serve as the benchmark for assessing the extent to which the existing regulations have succeeded or failed to achieve their goals.

1. Economic Impact Analysis of Problematic Substantive Provisions

Moving from the identification of juridical vulnerabilities, this analysis enters the evaluation stage using the EAL perspective. This approach views law not merely as a collection of commands and prohibitions, but as a system of incentives that influences the behavior of economic actors and yields specific efficiency consequences. The focus is to deconstruct how the problematic articles identified in the Mining Law concretely create inefficiencies, increase transaction costs, and generate negative externalities. Ultimately, these factors can erode the economic benefits of the downstreaming policy itself. A detailed analysis of the problematic substantive provisions is presented in the following table.

Table 2. Analysis of Substantive Provisions

The Mining Law and its Amendments	Other Related Legislation	Analysis
Article 17A, Article 22A, Article 31A, and Article 172B section (2) of Law Number 2 of 2025	Article 16 of Law Number 26 of 2007 and Article 20 of Spatial Planning Law juncto Article 17 point 11 of Government Regulation in Lieu of Law Number 2 of 2022	Changes to spatial and area functions are permissible and flexibly regulated under the Spatial Planning Law. It contrasts with the provisions in the Mining Law that guarantee no change in the spatial utilization of designated mining areas. This guarantee against spatial plan alterations is not aligned with environmental protection and management principles.
Article 39 point l of Law Number 3 of 2020	Article 23 section (1) of Law Number 32 of 2009	Article 23 section (1) of Law Number 32 of 2009 mandates the preparation of a comprehensive Environmental Impact Analysis. In contrast, the Mining Law only requires the preparation of an "environmental document" at the production operation stage (construction, mining, processing), which is not explicitly defined as equivalent to an Environmental Impact Analysis. At the exploration stage, the Mining Law does not require any environmental document, despite activities like drilling or land clearing having the potential to cause environmental damage.
Article 96 point b of Law Number 3 of 2020	Article 37 section (1) of Environmental Law juncto Article 22 point 15 of Government Regulation in Lieu of Law Number 2 of 2022	The phrase "and/or" in Article 96 point b of Law Number 3 of 2020 provides business actors with the option to conduct either reclamation or post-mining activities, but not necessarily both concurrently, as was regulated in Law Number 4 of 2009. This condition is seen as weakening the responsibility of mining operators to restore former mining sites comprehensively. Moreover, the Environmental Law imposes an obligation for holistic and sustainable environmental management.

The Mining Law and its Amendments	Other Related Legislation	Analysis
Article 162 of the Mining Law juncto Article 39 point 1 of Government Regulation in Lieu of Law Number 2 of 2022	Article 66 of Law Number 32 of 2009	Article 66 of Law Number 32 of 2009 is a form of legal protection for permit holders to reduce operational disruption risks. However, the vague phrasing of "obstructs or disturbs" in Article 162 of the Mining Law juncto Article 39 point 1 of Government Regulation in Lieu of Law Number 2 of 2022, can be used to criminalize individuals advocating for their right to a healthy and unpolluted environment affected by mining. This provision allows for criminal charges without clarity on the specific action, making it unclear whether the act is illegal or simply perceived as detrimental by a party. The penal sanction is considered rigid and subjective, potentially criminalizing local communities protesting environmental impacts or land conflicts.
Article 174 section (1) of Law Number 2 of 2025		The Government must promptly issue implementing regulations for the Mining Law to ensure legal certainty and effective execution, no later than 6 months after Law Number 2 of 2025 takes effect.

Source: Secondary Data, 2025.

First, the disharmony between the guarantee of spatial certainty in the Mining Law and the flexibility of spatial planning in the Spatial Planning Law creates significant allocative inefficiency. By "locking" the designation of an area for mining over a very long term, the regulation obstructs the potential for the land to be used for other purposes that might yield higher economic or social value in the future (a higher value alternative use). It generates a substantial opportunity cost for society. Furthermore, this condition impedes the ability of Local Governments to conduct adaptive and dynamic development planning that responds to changing economic and social needs. From an EAL perspective, this rigidity is a form of inefficiency because a resource (land) cannot be allocated to its most productive use over time.

Second, the weakening of environmental document standards in the Mining Law compared to the Environmental Law directly creates negative externalities whose costs are borne by the public and the state. By not mandating a document equivalent to an Environmental Impact Analysis at the exploration stage and only vaguely referring to an "environmental document" at the operational stage, the Mining Law incentivizes business actors not to internalize the full environmental costs of their activities. The resulting environmental damage, such as water pollution and land degradation, constitutes an external cost. This cost is not factored into the company's profitability calculations but becomes a tangible burden on public health, ecosystem sustainability, and the state budget for remediation. It is a classic example of market failure exacerbated by weak regulation.

Third, the use of the phrase "and/or" regarding reclamation and post-mining obligations in Article 96 point b of Law Number 3 of 2020 creates legal ambiguity. This ambiguity gives rise to moral hazard. This loophole allows business actors to choose the lowest-cost option—for instance, performing perfunctory reclamation without a comprehensive post-mining program—even if it is suboptimal for long-term environmental recovery. It increases the risk of former mining sites becoming unproductive and hazardous abandoned land. The uncertainty surrounding the standard of this obligation also increases transaction costs for the Government in conducting oversight and law enforcement, as it must contend with the interpretation of an ambiguous norm.

Fourth, the criminalization of parties who "obstruct or disturb" mining operations under Article 162 of the Mining Law juncto Article 39 point 1 of Government Regulation in Lieu of Law Number 2 of 2022, which clashes with the right to immunity under Article 66 of Law Number 32 of 2009, creates extremely high legal uncertainty. For communities and environmental activists, this article increases legal risks and the social cost of advocating for the right to a healthy environment. For investors, although this article appears to offer protection, the normative conflict with the Environmental Law creates unpredictable litigation and reputational risks. Such legal uncertainty is toxic to the long-term investment climate, as it increases the risk premium and hinders efficient decision-making. Thus, rather than providing certainty, this clash of articles creates a high-cost arena of conflict for all parties involved.

Overall, this economic impact analysis demonstrates that the juridically problematic articles in the Mining Law are not merely theoretical issues. They are concrete sources of economic inefficiency, negative externalities, and legal uncertainty. The failure to systematically harmonize these norms risks the achievement of downstreaming's grand objective—increased prosperity—at a disproportionate social and environmental cost. It underscores the urgency of evaluating alternative regulatory interventions, which will be discussed in the following section.

2. Assessing Regulatory Intervention Options: A Consequence Analysis of Regulation, Non-Regulation, and 'Do Nothing' Alternatives

Once the economic impacts of the flawed regulation have been identified, the RIA framework necessitates a systematic evaluation of the various intervention options available to the Government (Retnosari et al., 2024). This analysis does not consider a single solution in isolation but rather compares

the consequences of a series of alternative actions. These alternatives include regulatory intervention (alternative forms of regulation), non-regulatory intervention (alternatives to regulation), and the option to 'do nothing'. Each choice carries distinct economic, social, and environmental consequences. Therefore, a comparative evaluation is crucial for formulating the most efficient and practical policy recommendations (Rantala, 2025).

The first option, regulatory intervention, is the classic approach whereby the Government actively uses formal legal instruments to address the problem. In this context, regulatory intervention could take the form of a limited revision of the Mining Law to harmonize it with the Environmental Law and the Spatial Planning Law. Another option is the issuance of implementing regulations (a Government Regulation) to clarify and bridge the gaps in ambiguous norms. This approach aims to directly eliminate the sources of legal uncertainty and inefficiency that have been identified. Theoretically, this action is aligned with the principle of utilitarianism, where regulatory improvements are expected to optimize collective benefits and happiness by reducing negative externalities and transaction costs (Bentham, 2000). The positive consequence of this option is the creation of greater legal certainty, which can attract high-quality investment and provide clearer protection for the environment and communities (Deddy et al., 2023). However, its negative consequences include the cost and time required for the legislative or regulatory drafting process. Furthermore, there is a risk that overly frequent regulatory changes could create new uncertainties for business actors.

The second option, non-regulatory intervention, offers a softer, complementary approach. Instead of altering the legal text, the Government and other stakeholders focus on actions that can improve policy implementation on the ground. This alternative encompasses a series of initiatives: *first*, human resource capacity building through vocational training in mineral processing; *second*, the empowerment of local communities to participate in environmental oversight; *third*, the facilitation of multi-stakeholder dialogues for conflict mediation; *fourth*, educational campaigns on good mining practices; and *fifth*, the intensive dissemination of the new Mining Law's content. The primary advantage of this approach lies in its potential to save legislative costs and its high flexibility. However, its effectiveness is highly dependent on the active participation and good faith of all stakeholders. Without strong incentives or a supportive legal framework, non-regulatory initiatives risk being ineffective and incapable of addressing the root structural problems.

The third option, to 'do nothing', is a passive policy in which the Government consciously chooses not to intervene, assuming that the market

or the parties involved can resolve the issues themselves (McConnell & Hart, 2019). In the context of downstreaming, this option means allowing the disharmony and ambiguity within the Mining Law to persist. The consequences of this choice are exceedingly serious. Economically, legal uncertainty will continue to deter long-term investment and allow negative externalities to damage environmental assets without adequate compensation. Socially, the potential for conflict between companies and communities will persist, weakening social cohesion. Strategically, the 'do nothing' option risks plunging Indonesia deeper into the resource curse phenomenon, where mineral wealth becomes a source of instability and stagnation rather than prosperity (Auty, 1993). Given the complexity and scale of the negative impacts identified, this option is clearly not a rational or efficient choice.

Based on this comparative analysis, it can be concluded that a combination of regulatory and non-regulatory intervention represents the most optimal strategy. Regulatory intervention is necessary to address the root problems at the normative level. Meanwhile, non-regulatory intervention serves as a lubricant to ensure smoother and more inclusive policy implementation. The 'do nothing' option, in contrast, would incur far greater economic and social costs in the long run. This assessment forms the basis for formulating more concrete policy directions in the subsequent section.

3. Formulating Policy Directions Based on Efficiency and Sustainability

Based on a synthesis of the legal framework analysis and the RIA, the formulation of effective policy directions demands a pragmatic and evidence-based multi-track strategy. The RIA framework analysis unequivocally demonstrates that the 'do nothing' option is the least efficient and most high-risk choice. Therefore, active intervention by the regulator is imperative. However, the form of this intervention must be carefully designed to balance the urgency of problem-solving with political and legislative realities. Consequently, the most rational policy direction is to combine phased regulatory intervention with parallel non-regulatory interventions.

The primary and most urgent policy command is regulatory intervention at the technical level. It can be realized by expediting the formulation and issuance of implementing regulations for the new Mining Law. Considering that Law Number 2 of 2025 has only recently been enacted, attempting another revision in the near future would be an inefficient action that could create even more severe legal uncertainty. Therefore, the regulator's energy must be focused on drafting a Government Regulation that can function as a "normative bridge." This Government Regulation must be precisely drafted

to achieve several objectives. *First*, it must translate the ambiguous phrase "environmental document" into a mandatory requirement for an Environmental Impact Analysis that is equivalent to the standard set by the Environmental Law. *Second*, it must eliminate the dual interpretation of the phrase "reclamation and/or post-mining" by mandating both as a single, unified restoration process. *Third*, it must provide a clear and limited operational definition for the phrase "obstructs or disturbs" to prevent criminalization while ensuring proportional legal protection for all parties. This action represents the most efficient short-term solution to reduce transaction costs and negative externalities without reopening the "Pandora's box" of legislation at the statutory level.

In parallel with the drafting of implementing regulations, the Government must massively implement a series of non-regulatory interventions. These actions serve as social and technical lubricants to ensure the policy is accepted and effectively executed at the grassroots level. Human resource capacity-building programs, the facilitation of multi-stakeholder dialogues, and the empowerment of communities in oversight are crucial elements that can reduce social friction and enhance accountability. This approach aligns with the concept of smart regulation, which recognizes that a purely command-and-control approach through formal law is often insufficient. Other, more flexible and participatory instruments are needed to achieve compliance and optimal policy outcomes (Gunningham & Sinclair, 2017). The combination of clear rules (from the Government Regulation) and participatory implementation (from non-regulatory interventions) will create a powerful synergy.

For the long term, legislative harmonization at the statutory level remains an inevitable necessity (Busthami, 2022). The fundamental disharmony between the Mining Law, the Environmental Law, and the Spatial Planning Law cannot be fully resolved solely through implementing regulations. Therefore, the Government and the House of Representatives need to include the harmonization of these three laws in the medium-term National Legislation Program (Prolegnas). Future legislative processes must learn from past shortcomings by ensuring meaningful public participation and a comprehensive RIA-based analysis before any law is passed. This step will address the root of the problem at the highest level and ensure that future downstreaming policy is genuinely supported by a coherent, efficient, and just legal framework.

Thus, the formulated policy direction is a three-tiered strategy. *First*, Immediate Action: The issuance of precise implementing regulations to resolve ambiguities. *Second*, Parallel Action: The implementation of non-regulatory programs to build capacity and social consensus. *Third*, Strategic Action: The

long-term agenda for harmonizing sectoral laws. This strategy consciously balances pragmatic short-term solutions with long-term structural reforms. Ultimately, the objective is to ensure that the mineral downstreaming policy can achieve its mission of enhancing national prosperity efficiently and sustainably.

CONCLUSIONS AND SUGGESTIONS

Based on the results and discussion, it can be concluded that the legal architecture of Indonesia's mineral downstreaming policy reveals a paradox. Vertically, this legal framework appears coherent, with the Mining Law aligning with the mandate of the 1945 Constitution. Horizontally, however, there is fundamental disharmony and normative conflict, particularly with the Environmental Law and the Spatial Planning Law. An analysis from the EAL perspective further proves that this juridical disharmony is not merely a formal defect; it is a concrete source of economic inefficiency, negative externalities, and high-cost legal uncertainty. Thus, this research addresses its primary objective by asserting that although designed to achieve prosperity, the implementation of the downstreaming policy is impeded by regulations that are internally inconsistent and externally generate significant adverse impacts.

Furthermore, the RIA framework analysis concludes that the option not to intervene (the 'do nothing' option) would yield the most detrimental consequences, whether economically, socially, or environmentally. Therefore, active intervention by the regulator becomes a necessity. The most efficient and rational policy direction is a multi-track strategy that combines regulatory and non-regulatory interventions. For the short term, the main priority is the issuance of implementing regulations that can bridge the ambiguities and normative conflicts within the Mining Law. In parallel, non-regulatory interventions—through community empowerment, multi-stakeholder dialogues, and human resource capacity building—must be promoted to facilitate on-the-ground implementation. For the long term, legislative harmonization between the Mining Law and other sectoral laws is a non-negotiable strategic agenda. This combination of policies is formulated to ensure that the grand objective of downstreaming can be achieved optimally and sustainably.

Based on these conclusions, a series of suggestions is formulated for the relevant stakeholders. For the Government, it is suggested that it prioritize the formulation and issuance of the Mining Law's implementing regulations that expressly adopt higher standards of environmental protection and legal certainty. The Government is also advised to initiate non-regulatory programs actively. For the House of Representatives, it is suggested that it include the agenda of harmonizing the Mining

Law, the Environmental Law, and the Spatial Planning Law in the medium-term National Legislation Program (Prolegnas) and ensure that future legislative processes involve meaningful public participation. For Law Enforcement Officials, it is suggested that they apply a progressive legal interpretation, prioritize the precautionary principle in handling disputes, and strengthen oversight of business actors' compliance.

Furthermore, for Business Actors, it is suggested that they not only comply with minimum regulatory standards but also proactively adopt good mining practice and invest in environmentally friendly technologies and community development programs. For Civil Society, including Non-Governmental Organizations and local communities, it is suggested that they continue to play their role as critical external overseers. They are also expected to provide countervailing data and analysis, as well as to safeguard the protection of community rights and environmental sustainability. Finally, for Academics and Researchers, it is suggested that they continue this line of research by conducting more in-depth studies in several specific areas. Quantitative cost-benefit studies of various downstreaming policy scenarios, comparative analyses with other countries that have successfully implemented sustainable downstreaming, and socio-legal research on the impact of Article 162 of the Mining Law on civil liberties are several research agendas that can enrich understanding and provide a stronger foundation for future policymaking.

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