The Effectiveness Of Environmental Legal Instruments In Addressing The Dynamics Of International Trade

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Abstract.

The era of economic globalization requires Indonesia to adapt its environmental legal instruments to the increasingly complex dynamics of international trade. The regulatory transformation through Law No. 6 of 2023 on Job Creation has shifted the paradigm from an "environmental permit" system to an "environmental approval" system, while the implementation of carbon taxes through Law No. 7 of 2021 and various related conservation regulations presents new challenges in balancing economic competitiveness and environmental protection. This study aims to analyze the effectiveness of Indonesia's environmental legal instruments in meeting international environmental standards such as the EUDR and CBAM. The research method employs a normative legal approach using library research techniques, examining primary legal sources such as the latest laws and their implementing regulations, as well as secondary sources from academic literature and international reports. The results of the study show that environmental regulatory transformation creates a paradox between deregulation to attract investment and increasing environmental standards demanded by the global market. The implementation of a carbon tax at a rate of Rp30,000 per ton of CO2e and a carbon trading mechanism shows progressive steps but is still limited in scope. The development of synergies between conservation and trade requires strengthening the Payment for Environmental Services scheme and sustainable product certification. The study's conclusions emphasize the need for a more balanced policy reorientation and a holistic approach to integrate economic, social, and environmental aspects in addressing the dynamics of international trade that prioritize sustainability principles.

Keywords: *Environmental law; International trade and Era of globalization.*

I. INTRODUCTION

The era of economic globalization and increasingly complex international trade dynamics requires Indonesia to continuously adapt its environmental legal instruments (Fahrizi et al., 2023). In this context, the transformation of Indonesian environmental regulations has undergone significant changes since the enactment of Law Number 11 of 2020 concerning Job Creation, which was later refined into Law Number 6 of 2023 concerning the Stipulation of Government Regulation in Lieu of Law Number 2 of 2022 concerning Job Creation into Law. This omnibus law regulation fundamentally changes the paradigm of environmental protection and management, which was previously regulated in Law Number 32 of 2009 concerning Environmental Protection and Management (Herlina and Supriyatin, 2021).The fundamental change is the transformation from an "environmental permit" system to an "environmental approval" system within the business licensing framework. The Job Creation Law eliminates Article 40 of the Environmental Management and Management Law, which regulates environmental permits, and replaces it with an integrated environmental approval mechanism within business licensing. This change results in the Environmental Impact Analysis (AMDAL) no longer being a mandatory requirement for business permit issuance, but rather merely a consideration in the business licensing process.

Consequently, authority previously distributed to the Minister of Environment and Forestry, Governors, and Regents/Mayors has been re-centralized within the Central Government.The challenges become even more complex as Indonesia faces increasingly stringent international trade demands regarding environmental standards. The implementation of a carbon tax policy through Law Number 7 of 2021 concerning the Harmonization of Tax Regulations with a rate of IDR 30,000 per ton of CO2e, which has been gradually applied to the coal-fired power plant (PLTU) sector, demonstrates Indonesia's commitment to

climate change mitigation (Salsabila and Sitabuana, 2023). However, the implementation of this carbon tax must go hand in hand with the carbon trading mechanism stipulated in Presidential Regulation Number 98 of 2021 concerning the Implementation of the Economic Value of Carbon and Ministerial Regulation of the Environment and Forestry Number 7 of 2023 concerning Procedures for Carbon Trading in the Forestry Sector.Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management, as the implementing regulation for the Job Creation Law, introduces significant changes in the management of hazardous and toxic waste (B3). This regulation removes the B3 status from Fly Ash and Bottom Ash (FABA) from power plants and Spent Bleaching Earth (SBE) from the palm oil industry, which were previously categorized as B3 waste.

This change raises concerns about Indonesia's consistency in implementing sustainable trade principles, particularly in the face of pressure from developed countries that increasingly prioritize environmental standards in international trade (Anggara et al., 2021).In the context of international trade, Indonesia also faces pressure from the European Union Deforestation Regulation (EUDR) and various Carbon Border Adjustment Mechanism (CBAM) schemes that have begun to be implemented by developed countries (Corona et al., 2023). This demands the existence of environmental legal instruments that not only protect the domestic environment but also ensure the competitiveness of Indonesian export products in the global market. Law Number 32 of 2024 concerning Amendments to Law Number 5 of 1990 concerning the Conservation of Biological Natural Resources and Ecosystems is a response to these demands, although its implementation remains controversial because it is considered not to optimally accommodate the participation of indigenous communities.The growing international carbon trade also requires Indonesia to strengthen its legal and institutional infrastructure. Financial Services Authority Regulation No. 14 of 2023 concerning Carbon Trading Through the Carbon Exchange and Presidential Regulation No. 14 of 2024 concerning the Implementation of Carbon Capture and Storage Activities demonstrate Indonesia's efforts to develop a green economy.

However, the effectiveness of these legal instruments in addressing the dynamics of international trade still requires in-depth evaluation, particularly in the context of Indonesia's Net Zero Emission target by 2060 and its commitment to reduce GHG emissions by 31.89% by 2030 through the Enhanced National Determined Contribution (ENDC) (Rahayu, 2003).The complexity of the relationship between environmental legal instruments and international trade is increasingly evident in policy implementation, which often faces a trade-off between economic interests and environmental protection. The paradigm shift from a command-and-control approach to market-based instruments requires not only technical but also structural adjustments within Indonesia's environmental legal system. This situation demands an in-depth study of the effectiveness of existing environmental legal instruments in addressing the ever-evolving dynamics of international trade.Given these conditions, research on the effectiveness of environmental legal instruments in addressing the dynamics of international trade has become increasingly urgent. This study is crucial to ensuring that Indonesia can maintain its economic competitiveness in the global market while maintaining its commitment to sustainable environmental protection and management. This research is also expected to provide policy recommendations that can strengthen the synergy between environmental legal instruments and Indonesia's future international trade strategy.

II. METHODS

This study applies a normative legal approach with a descriptive method to analyze the effectiveness of environmental legal instruments in addressing the dynamics of international trade. The normative legal approach was chosen because the research focuses on the study of legal norms, legal principles, and legal systems that govern the relationship between environmental protection and international trade (Zainuddin and Karina, 2023). The descriptive method allows researchers to describe and explore in depth the complex interactions between environmental legal instruments and the ever-evolving dynamics of global trade.The data collection technique used was library research, reviewing various primary and secondary legal sources relevant to the research problem. The primary legal materials reviewed included the latest environmental and trade laws and regulations, such as Law Number 6 of 2023 concerning the Stipulation of the Job Creation

Government Regulation in Lieu of Law (Perppu), Law Number 7 of 2021 concerning the Harmonization of Tax Regulations, Law Number 32 of 2024 concerning Amendments to the Conservation Law, and various implementing regulations, including Government Regulation Number 22 of 2021, Presidential Regulation Number 98 of 2021, and related Ministerial Regulations.

Furthermore, this study also analyzed international agreements binding on Indonesia, such as the Paris Agreement, the UNFCCC, and various bilateral and multilateral trade agreements containing environmental clauses.Secondary legal materials were obtained from analysis of legal doctrine, academic research results, international and national legal journals, reference books on environmental and international trade law, and publications from international institutions such as the WTO, UNEP, and the World Bank. This research also reviewed official reports from Indonesian government agencies such as the Ministry of Environment and Forestry, the Ministry of Trade, and the National Standardization Agency, as well as strategic policy documents such as Indonesia's Enhanced Nationally Determined Contribution (ENDC) and the roadmap towards Net Zero Emission 2060. Secondary data were also obtained from publications of international organizations and think tanks that discuss environmental issues in the context of global trade.This research uses a comparative approach by analyzing best practices from other countries in harmonizing environmental legal instruments with international trade interests.

The comparative study was conducted on carbon tax regulatory models, emissions trading systems, and environmental certification mechanisms implemented in developed countries such as the European Union, the United States, and Canada, as well as developing countries with economic characteristics similar to Indonesia. This comparative analysis aims to identify regulatory models that best suit Indonesian conditions and can be adopted to improve the effectiveness of domestic environmental legal instruments. The analytical method used is a qualitative legal analysis with an interdisciplinary approach that combines legal, economic, and international political perspectives. The analysis process begins with an inventory and classification of all legal materials based on the hierarchy of laws and regulations and their relevance to the research problem. Next, a normative analysis is conducted to examine the consistency and coherence between regulations, identify potential norm conflicts, and evaluate the effectiveness of the implementation of existing legal instruments. The analysis also includes an examination of the gap between das sollen and das sein in the implementation of Indonesian environmental policy in the era of global trade.

III. RESULTS AND DISCUSSION

The Transformation of Environmental Legal Instruments in the Omnibus Law Era and Its Implications for International Trade

Indonesia's environmental legal instruments have undergone a significant paradigmatic shift since the enactment of Law Number 6 of 2023 concerning the Determination of the Job Creation Regulation in Lieu of Law (Perppu). The fundamental change lies in the transformation from a mandatory "environmental permit" system to an "environmental approval" system integrated into business licensing. This has resulted in the Environmental Impact Analysis (AMDAL) no longer being an absolute prerequisite for issuing a business permit, but rather merely a consideration in the business licensing process. This change fundamentally alters Indonesia's environmental legal architecture, from previously applying the precautionary principle to one that is more oriented toward facilitating investment and trade.The implications of this transformation for international trade are complex, particularly in the context of increasing demands for environmental standards from Indonesia's trading partners.

The European Union Deforestation Regulation (EUDR), which will come into full effect in 2025, requires Indonesia to demonstrate that export products such as palm oil, coffee, cocoa, and timber do not originate from areas experiencing deforestation after December 31, 2020. In this context, weakening domestic environmental legal instruments could actually harm the competitiveness of Indonesian exports in the European market. Similarly, the European Union's planned implementation of the Carbon Border Adjustment Mechanism (CBAM) will impose carbon tariffs on imported products based on the carbon footprint of their production processes. This situation highlights a paradox between the government's efforts

to attract investment through environmental deregulation and the increasingly stringent demands of the international market for environmental standards.

Government Regulation Number 22 of 2021, which removed the hazardous waste status of Fly Ash and Bottom Ash (FABA) from power plants and Spent Bleaching Earth (SBE) from the palm oil industry, also reflects an inconsistency in the application of sustainable trade principles. Developed countries are currently moving toward a circular economy and sustainable supply chain concept that prioritizes environmental principles at every stage of trade. This change in the status of hazardous waste can be viewed as a form of environmental dumping that has the potential to damage Indonesia's reputation as a country committed to sustainable development. This is in line with criticism raised by Rahayu (2003) that environmental standards in free trade often serve as an instrument of trade protection from developed countries to developing countries, while Indonesia, on the other hand, weakens its own environmental standards.

Effectiveness of Carbon Tax Implementation and Carbon Trading Mechanisms in the Context of Global Trade

The implementation of a carbon tax through Law Number 7 of 2021 concerning the Harmonization of Tax Regulations marks Indonesia's progressive step in integrating environmental economic instruments with the international trading system. With a rate of IDR 30,000 per ton of CO2e, equivalent to USD 2, Indonesia has one of the lowest carbon tax rates in the world, compared to countries such as Sweden (USD 137), Norway (USD 87), or even Singapore (USD 5). This low rate reflects the government's caution in implementing policies that could impact the competitiveness of domestic industries, but also demonstrates a lack of ambition in driving the transformation to a low-carbon economy, which is truly needed to meet the 2060 Net Zero Emission target.The cap-and-trade mechanism implemented in the coal-fired power plant (PLTU) sector demonstrates Indonesia's efforts to adopt market-based instruments that have proven effective in developed countries (Putra and Sipahutar, 2023). However, this mechanism's effectiveness remains limited, as it only covers 146 PLTUs out of the total energy sector.

Presidential Regulation No. 98 of 2021 concerning the Implementation of Carbon Economic Value and Ministerial Regulation No. 7 of 2023 concerning Procedures for Carbon Trading in the Forestry Sector demonstrate the government's efforts to develop broader environmental economic instruments. However, coordination between sectors and levels of government remains a major challenge in implementing this policy.In the context of international trade, Indonesia's carbon trading mechanism must be integrated with the global carbon trading system, particularly within the framework of Article 6 of the Paris Agreement, which regulates international cooperation mechanisms. OJK Regulation No. 14 of 2023 concerning Carbon Trading Through Carbon Exchanges is an important step in developing domestic carbon trading infrastructure. However, the standards and methodologies used must be compatible with international standards to ensure credibility and acceptability in the global carbon market. Another challenge is ensuring the environmental integrity of traded carbon credits, given concerns about greenwashing and double counting in international carbon trading (Yang et al., 2023). Indonesia needs to develop a robust monitoring, reporting, and verification (MRV) system to ensure that carbon trading truly contributes to global emission reductions and is not simply an accounting transfer.

Synergy between Natural Resource Conservation and Trade Competitiveness within the Framework of Sustainable Development

Law Number 32 of 2024 concerning Amendments to Law Number 5 of 1990 concerning the Conservation of Biological Natural Resources and Their Ecosystems introduces a new dynamic in the relationship between conservation and international trade. This amendment expands the scope of conservation to coastal areas and small islands (WP3K), which are strategic for the development of Indonesia's blue economy. However, the implementation of this law still faces challenges in accommodating the rights of indigenous communities and traditional knowledge systems that have long been an integral part of conservation practices in Indonesia. Criticism of the lack of public participation in the regulatory drafting process highlights a gap between the top-down approach to policy formulation and the need for a more inclusive, bottom-up approach.In the context of international trade, Indonesia's biodiversity conservation has

significant economic value, particularly in the development of biotechnology, pharmaceutical, and cosmetics industries based on Indonesia's natural resources. The Convention on Biological Diversity (CBD) and the Nagoya Protocol provide an international legal framework for access and benefit sharing (ABS), which can become a new source of revenue for Indonesia.

However, ABS implementation requires a robust legal system to protect the rights of local communities and ensure equitable benefit sharing. Presidential Regulation No. 14 of 2024 concerning the Implementation of Carbon Capture and Storage Activities also opens opportunities for Indonesia to develop a carbon capture and storage (CCS) industry that can attract international investment while contributing to global climate change mitigation.The main challenge in creating synergy between conservation and trade lies in developing a Payment for Environmental Services (PES) mechanism that can provide economic incentives for conservation practices. Indonesia has great potential to develop an international environmental services market, particularly through the REDD+ (Reducing Emissions from Deforestation and Forest Degradation) scheme, which can provide a source of income for local communities while preserving forests (Samii et al., 2014). However, REDD+ implementation requires a transparent and accountable governance system to ensure that economic benefits can be enjoyed by communities directly involved in conservation practices. Developing certification for sustainable products such as sustainable palm oil, sustainable fisheries, and sustainable forestry is also key to increasing the competitiveness of Indonesian products in international markets that increasingly prioritize sustainability aspects. This is in line with the global trend towards sustainable consumption and production patterns, one of the targets of the Sustainable Development Goals (SDGs).

IV. CONCLUSION

Based on the analysis conducted, it can be concluded that the effectiveness of Indonesia's environmental legal instruments in addressing the dynamics of international trade faces significant challenges due to regulatory transformation through the Job Creation Law. The shift from an "environmental permit" system to an "environmental approval" system has weakened the position of the AMDAL (Environmental Impact Assessment) as an environmental protection instrument, potentially harming Indonesia's export competitiveness in international markets that increasingly demand stringent environmental standards such as the EUDR and CBAM. The paradox between deregulation efforts to attract investment and global market demands for sustainable products demonstrates the need for a policy reorientation that balances economic interests and environmental protection.The implementation of a carbon tax of IDR 30,000 per ton of CO2e and a carbon trading mechanism through a cap-and-trade system demonstrate Indonesia's progressive approach to adopting market-based instruments.

However, its effectiveness remains limited due to its narrow sectoral coverage and relatively low tariffs compared to international standards. The development of a robust carbon exchange and MRV system is key to ensuring environmental integrity and compatibility with the global carbon trading system under Article 6 of the Paris Agreement. The success of these mechanisms depends heavily on intersectoral coordination and strengthening institutional capacity to avoid greenwashing and double counting.The synergy between natural resource conservation and trade competitiveness requires a holistic approach that integrates economic, social, and environmental aspects into sustainable development. The new Conservation Law provides opportunities for developing a blue economy and access and benefit sharing, but its implementation must be more inclusive of the participation of indigenous communities and traditional knowledge. Developing a Payment for Environmental Services scheme, certifying sustainable products, and strengthening the REDD+ system are key strategies for creating economic value from conservation practices while maintaining Indonesia's competitiveness in international markets that increasingly prioritize sustainability principles in global trade.

REFERENCES

[1] Anggara,F.,Petrus,HT,Besari,DAA,Manurung,H.,&Saputra,FYA (2021).Literature review of the characterization and potential utilization of fly ash and bottom ash (faba). Geological Resources Bulletin, 16(1), 53-70.

[2] Harahap, P. Hrp, NKAR Dewi, Macrozoobenthos diversity as an bioindicator of the water quality in the River Kualuh Labuhanbatu Utara, ***International Journal of Scientific & Technology Research***,9(4),2020, pp.179-183.

[3] Erwin Harahap,D.,Astuti Kuswardani,R.,HS Siregar,T.,& Darwis, M..(2024).Nira Production In Terms Of Slope Level In South Tapanuli District. ***International Journal of Science and Environment (IJSE),***4(4),112–116.

[4] Fitra Syawa Harahap, Arman, I. ., Harahap, N. ., Ahmad Syawaluddin, F. ., & Fitra Yana, R. . (2022). Provision of Chicken Manure and Urea Fertilizer on the Chemical Characteristics of Ultisol Soil in Bilah Barat District. ***International Journal of Science and Environment (IJSE),*** 2(3), 98–103.https://doi.org/10.51601/ijse.v2i3.34

[5] Tari Honda, J., M. Yelwa, J. ., Ulteino, AN ., Abudllahi, S. ., A. S, U. ., Anchau, HG ., & Michael Kalu, K. . (2023). Optimization Of Biosorption Conditions For Crude Oil Spills Using Acetylated And Unacetylated Biosorbents Derived From Cissus Populnea Leaves Stem And Roots. ***International Journal of Science and Environment (IJSE)***, 3(2), 51–65.https://doi.org/10.51601/ijse.v3i2.67

[6] Sinambela, M. ., Simangunsong, S., & Harahap, A. . (2023). Conditions Of Phytoplankton Community Structure In Lake Toba Ajibata, Toba Samosir Regency. ***International Journal of Science and Environment (IJSE)***, 3(2), 66–70.https://doi.org/10.51601/ijse.v3i2.68

[7] Rosenta Purba, I., & Harahap, A. . (2022). Plankton Diversity In The Labuhanbatu Bilar River. ***International Journal of Science and Environment (IJSE)***, 2(2), 63–68.https://doi.org/10.51601/ijse.v2i2.27

[8] Utandi Harahap, S., Syawal Harahap, F., Walida, H., & Rizal, K. (2024). Study of Soil Physical Properties of Oil Palm Plants (Elaeis Guinensis Jacq) in the Labuhanbatu University Practice Area in Rantau Selatan District. ***International Journal of Science and Environment (IJSE),*** 4(3), 91–96.https://doi.org/10.51601/ijse.v2i3.49

[9] Harahap, Arman, 2018, Macrozoobenthos diversity as a bioindicator of water quality in the Bilah river, Rantauprapat, Medan. ***J. Phys***.: Conf. Ser. 1116 052026.

[10] Harahap, et, all, Macrozoobenthos diversity as an bioindicator of the water quality in the Sungai Kualuh Labuhanbatu Utara, AACL Bioflux, 2022, Vol 15, Issue 6.

[11] Harahap, A. 2020. Species Composition & Ecology Index Of The Family Gobiidae At The Mangrove Belawan Of Sicanang Island ***International Journal of Scientific & Technology Research*** Vol.9, Issue 04, April 2020.

[12] Harahap, A., et all (2021), Monitoring Of Macroinvertebrates Along Streams Of Bilah River ***International Journal of Conservation Science this link is disabled***, 12(1), pp. 247–258.

[13] Corona, P., Di Stefano, V., & Mariano, A. (2023). Knowledge gaps and research opportunities in the light of the European Union Regulation on deforestation-free products. Annals of Silvicultural Research, 48, 87-89.

[14] Fahrizi, DA, Rohmah, KN, & Alvizar, R. (2023). The influence of globalization on economic development and environmental conservation. ***Journal of Management and Creative Business***, 1(3), 78-87.

[15] Herlina, N., & Supriyatin, U. (2021). Amdal as an instrument for controlling environmental impacts in sustainable and environmentally conscious development. ***Galuh Justisi Scientific Journal***, 9(2), 204-218.

[16] MJ, NA, Putra, AK, & Sipahutar, B. (2023). Carbon trading: Promoting climate change mitigation between market mechanisms and legal procedures. ***Jurnal Selat***, 10(2), 91-107.

[17] Rahayu, MIF (2003). The issue of environmental law enforcement within the framework of free trade in theera of globalization. MIMBAR: ***Journal of Social and Development***, 19(3), 227-242.

[18] Salsabila, AP, & Sitabuana, TH (2023). The urgency of implementing a carbon tax based on the Tax Regulation Harmonization Law. NUSANTARA: ***Journal of Social Sciences***, 10(5), 2342-2351.

[19] Samii, C., Lisiecki, M., Kulkarni, P., Paler, L., Chavis, L., Snilstveit, B., ... & Gallagher, E. (2014). Effects of payments for environmental services (PES) on deforestation and poverty in low and middle income countries: A systematic review. Campbell Systematic Reviews, 10(1), 1-95.

[20] Yang, Z., Huong, NTT, Nam, N.H., Nga, NTT, & Thanh, CT (2020). Greenwashing behavior: Causes, taxonomy and consequences based on a systematic literature review. ***Journal of Business Economics and Management***, 21(5), 1486-1507.

[21] Zainuddin, M., & Karina, AD (2023). The use of normative juridical methods in proving truth in legal research. ***Smart Law Journal***, 2(2), 114-123.