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STATE RESPONSIBILITY IN CONTROLLING CLIMATE CHANGE THROUGH CARBON ECONOMIC VALUE

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Abstract

The issue of climate change necessitates active state participation in mitigating greenhouse gas (GHG) emissions through the adoption of equitable and sustainable policies. This study seeks to examine the nature of state responsibility in climate change mitigation in Indonesia, with a particular focus on the implementation of Carbon Economic Value (NEK) as delineated in Presidential Regulation No. 98 of 2021. This research constitutes a prescriptive normative legal study, employing a legislative approach. The findings indicate that the regulatory framework for Carbon Economic Value (NEK) provides a foundational structure for NEK as an environmental economic instrument to facilitate the attainment of Nationally Determined Contributions (NDCs) through various mechanisms. Nonetheless, this framework exhibits several deficiencies, including the legal status of carbon units, the mechanism for state accountability, and inadequate protection for indigenous peoples and local communities. Consequently, the researchers advocate for the government to fortify the legal foundation of NEC by formulating more detailed and integrated technical regulations and, in the long term, to consider the development of specific legislation on carbon economic value. These measures are anticipated to enhance the efficacy of NEC, ensure legal certainty, and achieve ecological justice for both present and future generations.

INTRODUCTION

The right to a good and healthy environment is a fundamental entitlement of citizens, as enshrined in Article 28 H, paragraph 1 of the 1945 Constitution of the Republic of Indonesia. This article asserts that every individual is entitled to physical and spiritual well-being, adequate housing, a good and healthy environment, and access to health services. Similarly, Article 33, paragraph (4) underscores that the national economy should be organized based on economic democracy, adhering to principles of solidarity, efficiency with justice, sustainability, environmental consciousness, independence, and the maintenance of a balanced national economic progress and unity. These provisions, articulated in Article 28 H, paragraph (1) and Article 33, paragraph (4), establish a normative framework wherein the welfare of the populace, the sustainability of natural resources, and environmental conservation are integrated as a unified principle in the execution of national development.

In the global arena, Indonesia has ratified the Paris Agreement through Law Number 16/2016, which addresses the Ratification of the Paris Agreement under the United Nations Framework Convention on Climate Change. The Paris Agreement comprises several key substantive elements. Primarily, its objective is to limit the global temperature increase to below 2°C above pre-industrial levels, while also endeavoring to restrict the rise to below 1.5°C. Additionally, it requires each country to submit nationally determined contributions (Nationally Determined Contributions). These contributions must be progressively enhanced in each period, with developing countries necessitating support to elevate their ambitions.

Indonesia's Nationally Determined Contribution (NDC) includes both mitigation and adaptation components. In alignment with the requirements of the Paris Agreement, Indonesia's NDC is subject to periodic review. During the initial phase, the target established by Indonesia's NDC is to achieve a 29% reduction in emissions through domestic efforts and a 41% reduction with international collaboration, relative to the business-as-usual scenario by 2030. This target is to be accomplished through initiatives in sectors such as forestry, energy (including transportation), waste management, industrial processes and product use, and agriculture. The commitments for Indonesia's

NDC in subsequent periods are to be determined based on performance evaluations and must demonstrate progress from the preceding period.

Subsequently, the government promulgated Presidential Regulation No. 98/2021, which pertains to the Implementation of Carbon Economic Value for the Achievement of Nationally Determined Contribution Targets and the Regulation of Greenhouse Gas Emissions within National Development. This Presidential Regulation establishes the foundational framework for the execution of Carbon Economic Value (NEK) and provides guidelines for the reduction of Greenhouse Gas Emissions (GHG) through policies, measures, and activities aimed at achieving NDC targets and managing GHG Emissions in the context of national development.

Presidential Regulation No. 98 of 2021 establishes a carbon market mechanism as an economic legal instrument designed to facilitate emission control. Article 54 stipulates that both domestic and international carbon trading shall be executed through a carbon market mechanism via a Carbon Exchange and/or direct trading. The implementation of carbon trading through this mechanism necessitates the development of carbon trading infrastructure, the regulation of state revenue utilization from carbon trading, and the administration of carbon transactions. Climate change is defined as a long-term alteration in temperature and weather patterns, posing a threat to human survival. Its effects are evident across various sectors, including agriculture, energy, and health. As a developing nation with an extensive tropical ecosystem, Indonesia bears a substantial responsibility in mitigating greenhouse gas (GHG) emissions. Climate change and the environmental crisis are interconnected global challenges that present significant threats to humanity in the 21st century. Their impacts are already manifesting worldwide, endangering both human and ecological survival.

Climate change has emerged as a global concern with profound implications for socio-economic welfare and environmental sustainability. Indonesia, characterized by its archipelagic nature, rich biodiversity, and extensive coastal regions, is particularly vulnerable to various risks, including sea level rise, reduced agricultural productivity, and an increased frequency of natural disasters. The adverse effects impacting these sectors encompass rising average global temperatures, alterations in rainfall patterns and

distribution, sea level rise, and the heightened frequency and intensity of hydrometeorological disasters. This situation necessitates an urgent, coordinated, and legally grounded policy response to mitigate greenhouse gas emissions while safeguarding the rights of present and future generations to a healthy and sustainable environment.

In accordance with the Presidential Regulation, the Ministry of Environment and Forestry has issued Minister of Environment and Forestry Regulation No. 21/2022, which addresses the Implementation of Carbon Economic Value. This regulation outlines the operational guidelines for the registration of activities and the execution of carbon trading. Ministerial Regulation No. 21/2022 governs the implementation of Carbon Economic Value (NEK) as a mechanism to achieve the targets set by the Nationally Determined Contribution (NDC) and to manage national greenhouse gas emissions. The regulation is designed to ensure that all aspects of NEK implementation, including planning, execution, and monitoring, are measurable, verifiable, and accountable.

Presidential Regulation No. 98/2021, while conforming to all principles of regulatory formation such as clarity of purpose, appropriateness of type and hierarchy, and enforceability, nevertheless omits several critical aspects that remain insufficiently detailed. Although the National Emission Reduction (NEK) framework was established to facilitate the attainment of Nationally Determined Contributions (NDCs) and climate change mitigation, the NEK regulations do not explicitly delineate the mechanisms for state accountability should this instrument fail to meet its mitigation objectives or fail to safeguard citizens' rights. This legal lacuna engenders uncertainty regarding accountability for unmet emission reduction targets or when the implementation of NEK results in socio-environmental repercussions. Moreover, there is an absence of mechanisms to ensure protection for communities adversely affected by carbon projects, thereby exposing them to potential violations of environmental rights as enshrined in Article 28 H paragraph (1) of the 1945 Constitution, which asserts that 'Every person shall have the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy environment, as well as the right to obtain health services.

Research conducted by Wilda Prihatiningtyas, Suparto Wijoyo, Indria Wahyuni, and Zuhda Mila Fitriana, titled "Perspectives on Fairness in Carbon Trading Policy in Indonesia as an Effort to Address Climate Change," reveals that the carbon trading policy outlined in the NEK Presidential Regulation necessitates the incorporation of the principle of justice. This principle of justice requires the policy to maintain equilibrium among ecological, social, and economic dimensions. Furthermore, the carbon trading mechanism must be structured to ensure fairness not only for the present generation (intragenerational equity) but also for future generations (intergenerational equity).

The study conducted by Suci Ariyanti, Suwarno Abadi, and Taufiqurrahman examines the implementation of carbon trading in Indonesia following the issuance of POJK No. 14/2023 on the Carbon Exchange. The findings indicate that several issues persist post-issuance of the POJK on the Carbon Exchange. Notably, the capital requirements for carbon exchange operators align with those for the stock exchange, rendering the carbon exchange accessible primarily to certain groups. Furthermore, POJK 14/2023 categorizes carbon trading as a 'security,' allowing for the possibility of delisting, despite the fact that carbon itself cannot be eliminated. The provisions of Article 27 concerning transparency and equal access are inconsistent with the concept of carbon as a security, as they potentially enable stock exchange participants to dominate. Lastly, the regulation lacks clarity regarding the eligibility of participants in carbon trading, leaving it uncertain whether individuals, cooperatives, communities, or NGOs are permitted to engage in the process.

The study conducted by Wilda Prihatiningtyas, Suparto Wijoyo, Indria Wahyuni, and Zuhda Mila Fitriana, titled "Perspectives on Fairness in Carbon Trading Policies in Indonesia as an Effort to Address Climate Change," emphasizes the necessity of integrating economic, social, and ecological dimensions to achieve justice in carbon trading. It also underscores the importance of ensuring intergenerational sustainability. Consequently, there is a need for technical regulations to enhance the role of local governments, ensure the participation of indigenous peoples, and allocate carbon trading revenues towards environmental restoration and protection, aligning with the state's responsibilities. Strengthening these aspects is anticipated to facilitate the

implementation of the NEK in realizing social justice in accordance with constitutional mandates. Nur Azizi MJ, Akbar Kurnia Putra, and Bernard Sipahutar conducted further research titled "Carbon Trading: Promoting Climate Change Mitigation Between Market Mechanisms and Legal Procedures." The findings of this study reveal a legal ambiguity within the current carbon trading regulations, specifically the 2015 Paris Agreement.

Previous research has addressed topics related to carbon trading and climate change. Nonetheless, there is a lack of studies specifically investigating the role of state responsibility in mitigating climate change through the economic valuation of carbon. Given these circumstances, this legal research is crucial to assess the extent to which NEK embodies the realization of state responsibility in climate change mitigation.

RESEARCH METHODS

Legal research is an applied activity within the field of legal science, rather than merely theoretical. As an applied activity, legal research is undertaken to address specific legal issues. This study employs prescriptive normative legal research. In this context, normative legal research is conducted to examine applicable norms or provisions, specifically legislation pertinent to the issues under investigation. The approach utilized is a legislative approach, which is employed to analyze relevant laws and regulations both vertically and horizontally, particularly in relation to the state's responsibility in managing climate change through the implementation of Carbon Economic Value (NEK). These regulations encompass the 1945 Constitution of the Republic of Indonesia, Law Number 32/2009, Law Number 16/2016, and Presidential Regulation Number 16/2016. The legal materials utilized include both primary and secondary sources. Primary legal materials consist of laws, regulations, and international agreements, while secondary legal materials comprise books and journals relevant to this study. The collection of legal materials was conducted through a literature review.

RESULTS AND DISCUSSION

4.1. Legal Basis of State Responsibility

Climate change constitutes a significant contemporary challenge. Efforts to mitigate climate change are intricately linked to individual perceptions of its causes. It is widely acknowledged that the continuous increase in global average temperatures will affect climatic events on land. Indonesia, as a nation with substantial greenhouse gas emissions, is obligated to reduce emissions in accordance with international commitments. The state's duty to address climate change is enshrined in the 1945 Constitution of the Republic of Indonesia, specifically in Article 28H paragraph (1), which affirms that every individual is entitled to a good and healthy environment as a fundamental human right. Additionally, Article 33 paragraph (3) stipulates that the earth, water, and natural resources are under state control and should be utilized for the maximum benefit of the populace. These provisions emphasize the principle that the state not only holds authority over natural resource management but also bears a legal and moral obligation to ensure environmental sustainability as an aspect of public welfare. Consequently, all state policies, including those related to climate change mitigation, must be grounded in the principle of state responsibility towards the environment and future generations.

From a legal perspective, the constitutional provisions are operationalized through Law No. 32/2009 concerning Environmental Protection and Management (PPLH Law), which serves as the foundation of national environmental legislation. Article 2 of the PPLH Law mandates that environmental protection and management must adhere to the principles of state responsibility, sustainability, and justice. Furthermore, Article 3 specifies that the objective of environmental protection and management is to achieve environmentally sustainable development, while Articles 42 and 43 regulate the application of environmental economic instruments, including market-based mechanisms such as the carbon economic value (NEK). Consequently, the implementation of NEK, as outlined in Presidential Regulation No. 98/2021, derives direct legitimacy from the PPLH Law, representing a manifestation of state responsibility in mitigating greenhouse gas emissions through legal and economic instruments.

In addition to national legal frameworks, the responsibilities of the state are further informed by Indonesia's international commitments as a signatory to the United

Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement, which have been ratified through Law No. 6/1994 and Law No. 16/2016. Pursuant to these international agreements, Indonesia is obligated to reduce greenhouse gas emissions in alignment with its Nationally Determined Contribution (NDC). This obligation strengthens the state's legal mandate to incorporate climate change mitigation policies into the national legal system, including through the NEK mechanism, which is recognized as a market-based approach. Consequently, the implementation of NEK transcends mere administrative policy, constituting a component of the state's fulfillment of its international obligations that have been ratified and are legally binding at the national level.

Presidential Regulation No. 98/2021, which addresses the Implementation of Carbon Economic Value for the Achievement of Nationally Determined Contribution Targets, elucidates the state's obligation in mitigating climate change. This regulation introduces NEK as a mechanism to facilitate the attainment of emission reduction targets, as pledged by Indonesia in the Paris Agreement. It delineates the frameworks for carbon trading, offsets, carbon levies, and fiscal incentives for enterprises that contribute to emission reductions. This represents a shift from a command-and-control approach to an environmental economic instrument approach, which is more responsive to market dynamics and environmental justice. Nonetheless, as this Presidential Regulation serves as an implementing regulation, its efficacy is contingent upon alignment with higher-level legislation and robust institutional support.

The following table outlines the general framework of state regulations concerning Carbon Emission Values.

Regulations	Substance	Form of State Responsibility	Relvance to
Article 28H, paragraph (1) of the 1945 Constitution of the Republic of Indonesia	Guarantees the right to a good and healthy environment	The state is obligated to protect, respect, and fulfill environmental rights.	The philosophical foundation of NEK policy serves as a mechanism for the realization of

			environmental rights.
Article 33 paragraphs (3) & (4)	The state is responsible for the governance of natural resources and is mandated to ensure their sustainable management.	The state bears the responsibility for the management of natural resources to ensure the prosperity of its citizens.	The management of carbon, as a component of natural resources, should be overseen by the state through NEK governance.
Law 32/2009 (PPLH) Article 2	The principles of state responsibility, sustainability, and ecological justice	The state is mandated to regulate pollution and environmental degradation, including greenhouse gas (GHG) emissions.	This constitutes the normative legitimacy of NEK as an instrument in environmental economics.
Law 32/2009 Article 3	The objective of PPLH: to realise sustainable development.	The state is obliged to ensure that ecology is preserved in development	NEK
Law 32/2009 Articles 42-43	Environmental economic instruments include market mechanisms.	The state possesses the authority to implement economic instruments for the purpose of environmental regulation.	The basis for regulating NEK and carbon trading.
Law No. 6/1994 (Ratification of the UNFCCC)	Indonesia is required to control emissions and report mitigation actions	The state is obligated to engage actively in the regulation of global climate.	NEK is integral to the implementation of mitigation obligations under the UNFCCC.

Law 16/2016 (Ratification of the Paris Agreement)	Obligation to reduce emissions in accordance with NDC	The state is internationally responsible for meeting NDC targets	NEK is an instrument for achieving national NDC targets.
Presidential Regulation 98/2021 (NEK)	The implementation of NEK is regulated through mechanisms such as carbon trading, offsets, carbon levies, and incentives.	The state functions as a regulatory authority by establishing standards, maintaining a national registry, and overseeing verification and supervision processes.	Serves as the foundation for the operational carbon market in Indonesia.
Ministerial Regulation LHK 21/2022	Technical implementation of NEK: registration, MRV, SRN, carbon certification	The state is mandated to uphold data integrity, transparency, and accountability.	Technical implementation of carbon trading & carbon units.
Legal gaps	There is an absence of a specific NEK law, resulting in ambiguity regarding the legal status of carbon units. Additionally, there is a lack of synchronization between sectors, and presidential regulations hold a lower status than laws.	The state currently lacks a comprehensive legal framework to delineate the rights and obligations of participants in the carbon market.	This has a direct impact on legal certainty, sector coordination, and the effectiveness of the carbon market.

The table illustrates that the legal framework for the carbon economic value (NEK) in Indonesia is founded on constitutional principles, statutory laws, and supplementary international commitments. Although this normative framework grants the state considerable legitimacy to utilize NEK as a mechanism for climate change mitigation, several regulatory gaps and sectoral inconsistencies persist, necessitating urgent

attention. The absence of specific legislation governing NEK, the ambiguous legal status of carbon units, and inadequate inter-ministerial coordination indicate the state's incomplete fulfillment of its responsibilities in practice.

Efforts to reduce Carbon Economic Value (NEK) constitute a national strategy aimed at mitigating greenhouse gas emissions through the deployment of various policy instruments, technologies, and governance mechanisms. A principal approach within this strategy is the implementation of carbon pricing, which may be executed through carbon taxes or carbon trading schemes. This instrument assigns a monetary value to each tonne of emissions, thereby incentivizing businesses to transition to more efficient and low-carbon technologies. According to the World Bank's State and Trends of Carbon Pricing report (2023), countries that consistently implement carbon pricing experience a significantly greater reduction in emissions compared to those without such regulations.

Moreover, the advancement of the Measurement, Reporting, and Verification (MRV) system is essential for ensuring the accuracy of emissions data and accountability in emissions reductions. Ministry of Environment and Forestry Regulation No. 21 of 2022 emphasizes the need for clear MRV standards to prevent double counting and to uphold the integrity of the national carbon market. A study by Green (2021) published in Nature Climate Change similarly underscores that, without robust technical regulations and data governance, the carbon market will not effectively reduce emissions.

The reduction of carbon emissions is currently the foremost priority on the global climate agenda. Consequently, the enhancement of regulations, sectoral harmonization, and reaffirmation of the principle of state responsibility are essential prerequisites for NEK to function effectively as a mitigation instrument and to ensure environmental protection and ecological justice for the community. The integration of constitutional norms, legislative mandates, and international commitments must be directed towards establishing a carbon legal system that is transparent, accountable, and oriented towards sustainability. Thus, the implementation of NEK will not only represent a technocratic policy but also a manifestation of state responsibility in addressing the climate crisis and safeguarding the rights of present and future generations.

4.2. The Imperative of Technical Regulations in Fulfilling State Obligations

Environmental sustainability is a multifaceted concept, characterized by the dynamic interplay between human and natural dimensions. Policymakers in developed nations are confronted with the challenge of reconciling economic growth with the imperative to address citizens' concerns regarding the mitigation of human-induced environmental degradation. The profound impact of the Industrial Revolution has been substantial, and its evolution persists. Nevertheless, the associated environmental challenges and their impacts remain unresolved to this day. A notable environmental consequence of industrial activity is climate change, which leads to water scarcity, degradation of terrestrial and marine ecosystems, deteriorating public health, and food shortages. The state's responsibility in addressing climate change is deemed technically inadequate if it is solely governed by Presidential Regulation No. 98/2021, which pertains to the Implementation of Carbon Economic Value for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development. This policy necessitates more detailed, operational, and measurable technical regulatory guidance to ensure that the implementation of the NEK can proceed effectively and in alignment with the constitutional mandate and environmental laws. In the absence of comprehensive technical regulations, the state's obligation to protect the environment and ensure ecological justice is at risk of not being fulfilled.

Several reasons necessitate the establishment of technical regulations, primarily to ensure legal certainty for various mechanisms within the National Emissions Trading System (NEK), such as carbon trading, carbon levies, offsets, and emissions reduction verification. Presidential Regulation No. 98/2021 offers only a conceptual framework and lacks specific details regarding the legal status of carbon units, ownership and transfer of rights, contractual mechanisms, and national registry governance. In the absence of clear technical regulations, both businesses and the public will encounter uncertainty in conducting carbon transactions, while the state will be deprived of adequate instruments for supervision and enforcement. This situation contradicts the principle of legal certainty, which is a fundamental responsibility of the state in governance.

The second aspect involves the implementation of technical regulations to enhance the integrity of the carbon market, particularly concerning measurement, reporting, and verification standards. The newly introduced NEK instrument can only be deemed reliable if the nation establishes consistent technical standards across the energy, industry, forestry, and waste sectors, thereby mitigating the risks of double counting or data manipulation. Furthermore, explicit regulations regarding the competence of verification agencies, certification procedures, and sanctions for non-compliance are crucial components of the state's responsibility to ensure transparency and accountability. In the absence of robust oversight mechanisms, the carbon market risks becoming a platform for greenwashing, which could detrimentally affect the public and compromise the integrity of climate policy. Technical regulations are essential for safeguarding the rights of indigenous peoples and local communities. Numerous carbon projects are established in forested or community-managed areas, which poses a significant risk of tenure conflicts and social injustice. The state bears a constitutional responsibility to protect these rights, which includes facilitating meaningful participation through the Free, Prior, and Informed Consent (FPIC) framework, ensuring equitable benefit distribution, and guaranteeing access to environmental information. Given that these elements are not explicitly addressed in Presidential Regulation No. 98/2021, technical regulations serve as a critical mechanism to prevent exploitative practices and the marginalization of vulnerable groups.

Fourth, the formulation of technical regulations is essential to delineate the authority and coordination among ministries and agencies. The National Environmental Knowledge (NEK) initiative is inherently cross-sectoral, involving the Ministry of Forestry, the Ministry of Environment, the Ministry of Finance, and local governments. Without a clearly defined division of responsibilities, NEK policies are likely to face overlapping authorities, disharmony among sectoral policies, and ineffective implementation in practice. Therefore, technical regulations must comprehensively articulate the roles of each agency, coordination procedures, reporting mechanisms, and integrated oversight instruments. This initiative also signifies the state's commitment to upholding the principles of good environmental governance.

Technical regulations play a crucial role in governing the allocation of funds derived from carbon transactions, underscoring the state's responsibility in environmental restoration. It is imperative that funds obtained from NEK are not merely treated as state revenue but are strategically allocated towards forest rehabilitation, disaster risk reduction, and enhancing the capacity for climate change mitigation and adaptation. Such regulations not only ensure fiscal accountability but also demonstrate the state's commitment to maintaining ecosystem sustainability.

The necessity for technical regulations in the implementation of Carbon Economic Value (NEK), as previously outlined, indicates that it is insufficient for the state to regulate solely through a general and conceptual normative framework. The complexity of climate change issues, the diversity of actors involved, and the potential for ecological injustice necessitate laws that can effectively address the actual needs of society and the dynamics of the environment. Consequently, the role of law must be understood not merely as a static or administrative control tool, but as an adaptive, participatory instrument that is responsive to the socio-ecological challenges that arise during policy implementation.

The conditions outlined align with the perspectives of Philippe Nonet and Philip Selznick in their Responsive Law Theory, which advocates for the transition of law from a 'repressive' or 'autonomous' stage to a 'responsive' stage. According to Nonet and Selznick, a responsive institution maintains its core integrity while adapting to new environmental forces. It views social pressures as sources of knowledge and opportunities for self-correction. Only when an institution is genuinely purposive can it achieve a balance between integrity and openness, rule and discretion. Consequently, responsive law presupposes that purpose can be rendered sufficiently objective and authoritative to guide adaptive rule-making. In this context, responsive law is characterized by its ability to preserve fundamental integrity while adapting to social changes and environmental pressures. Regarding the implementation of Carbon Economic Value (NEK), this principle suggests that a general normative framework, such as that provided by Presidential Regulation No. 98/2021, is insufficient to address the complexities of climate issues and the dynamics of the involved parties. The state must develop more targeted technical regulations. These regulations enable the law to function more purposefully, not only by regulating administrative procedures but also by ensuring

the protection of community rights, transparency in emission reduction mechanisms, and effective institutional coordination. Thus, through the affirmation of objectives and the strengthening of implementing regulations, NEK policies can embody the characteristics of responsive law, which not only maintains formal order but also adapts, addresses shortcomings, and meets public demands in a more substantive manner.

An essential attribute of responsive law is the integration of legal and political aspirations, which facilitates broader access through the collaboration of legal and social advocacy. This principle underscores the capacity of responsive law to harmonize legal and political objectives, thereby enhancing accessibility via the synergy between legal and social advocacy efforts. In the context of implementing Carbon Economic Value (NEK), this principle highlights the necessity for climate policy to transcend a purely technocratic approach, incorporating the aspirations of affected communities, including vulnerable groups such as indigenous peoples and local communities. Comprehensive technical regulations serve as a crucial mechanism to ensure that access to information, participatory processes, and the protection of ecological rights are not merely formalities but are genuinely embedded within the decision-making framework. Consequently, CEV policies can embody the integration of legal objectives, such as certainty and accountability, with socio-political objectives, such as ecological justice and the protection of marginalized groups.

Philippe Nonet and Philip Selznick (2001) assert that the enduring authority of legal purposes and the integrity of the legal order are contingent upon the establishment of more proficient legal institutions. This assertion underscores the notion that the persistence of legal authority and the preservation of legal order are intrinsically linked to the competent design of legal institutions. In the context of implementing Carbon Economic Value (NEK), it is insufficient for the state to merely establish a normative framework through Presidential Regulation No. 98/2021. Instead, it must also develop institutional structures and technical regulatory instruments capable of effectively realizing climate policy objectives. Without competent institutions equipped with clear operational standards, robust verification mechanisms, effective cross-sector coordination, and the protection of indigenous peoples' rights, the legal objectives of climate change mitigation and ecological justice cannot be consistently achieved.

Therefore, the formulation of technical regulations and the strengthening of institutions are not merely administrative tasks but are fundamental prerequisites for upholding the authority of NEK policies and the integrity of environmental governance in its entirety.

In response-based legal frameworks, the law extends beyond the mere maintenance of formal order to serve as a mechanism for achieving broader societal objectives, such as justice, the protection of vulnerable populations, and the fulfillment of public needs. The lack of sufficient technical regulations within the NEK indicates that Indonesia's climate policy remains embedded within a legal framework that has yet to fully respond to the practical realities on the ground.

The imperative of technical regulations in the implementation of NEK represents a tangible manifestation of the state's duty to address climate change. These regulations function as an intermediary between constitutional norms, legislative directives, and international obligations, facilitating policy execution at the operational level. In the absence of clarity, certainty, and harmonization in technical regulations, NEK policies risk becoming ineffective, inequitable, and incapable of fulfilling the state's legal responsibilities to safeguard the environment and ensure citizens' rights to a healthy environment. Consequently, the development of comprehensive and integrated technical regulations is an urgent necessity for achieving equitable and sustainable climate governance.

CONCLUSION

Based on the study's findings, it can be concluded that the establishment of the Carbon Economic Value (NEK) regulation has laid a foundational framework for NEK as an environmental economic instrument aimed at supporting the achievement of Nationally Determined Contributions (NDCs) through various mechanisms, including carbon trading and carbon levies. Nevertheless, this framework exhibits several deficiencies, such as the ambiguous legal status of carbon units, the absence of a clear mechanism for state accountability in the event of unmet mitigation targets, and insufficient protection for indigenous peoples and local communities potentially impacted by carbon projects.

In consideration of these factors, researchers recommend that the government strengthen the legal framework of the NEK by developing more comprehensive and

integrated technical regulations. Additionally, in the long term, it is advisable to consider the enactment of specific legislation regarding the economic valuation of carbon. These technical regulations should clarify standards for the measurement and verification of emissions, governance of carbon registries, equitable benefit-sharing schemes, mechanisms for meaningful community participation, and the delineation of authority and coordination among ministries and agencies. By implementing these measures, the NEK is expected to function more effectively, provide legal certainty, and achieve ecological justice for both present and future generations.

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