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GREENHOUSE GAS EMISSION CONTROL IN NATIONAL DEVELOPMENT

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Abstract

Environmental issues such as global warming, the greenhouse effect, and drastic climate change, as well as social issues such as meeting the needs of both workers and interested parties continue to increase, and urge the development of innovative financial products. Manufacturing companies are currently in the spotlight of various interested parties, there are 8 industrial sectors that contribute large amounts of carbon emissions, namely: cement industry, steel industry, pen and paper industry, textile industry, ceramic industry, fertilizer industry, petrochemical industry, and food and beverage industry. This concern for the environment must continue to be improved seeing that the impact of company operations is very significant starting from the greenhouse gas effect which continues to increase every day. As a country committed to the climate change control agenda, Indonesia has developed regulations, action programs and systems and mechanisms to reduce GHG emissions to meet the Nationally Determined Contribution (NDC) target and control GHG emissions in national development. One of the supporting mechanisms developed is the Value of Carbon Economy.

Key Words: ***Manufacturing Company, Carbon Emission, Nationally Determined Contribution, Economic Value of Carbon (NEK)***

1. Introduction

The development of greenhouse gases in Indonesia has increased significantly in recent decades. Greenhouse gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), contribute to global warming and climate change.(Fauzi et al., 2023). Some of the main factors that influence the increase in greenhouse gas emissions in Indonesia include deforestation, peatland burning, and industrial and transportation activities. Indonesia has also implemented the same thing in its efforts to achieve Sustainable Development Goals (SDGs) for 15 land ecosystems. However, the efforts that have been made are considered insufficient in balancing profit with environmental concerns. This is because there are no accounting standards that specifically regulate environmental issues. Instead of attracting investors, this has backfired on the company because this effort is not good enough for the company's profit returns.(Syaharani & Tavares, 2020).

As a country committed to the climate change control agenda, Indonesia is developing regulations, action programs and systems and mechanisms to reduce emissions.greenhouse gases to meet the Nationally Determined Contribution (NDC) target and control greenhouse gas emissions in national development. One of the supporting mechanisms developed is the economic value of carbon(Triastuti et al., 2022). Presidential Regulation Number 98 of 2021 has regulated the Economic Value of Carbon (NEK) and its technical procedures have also been regulated in the implementing regulations of the Minister of Environment and Forestry. In Presidential Regulation 98, carbon trading procedures have been regulated for both domestic and foreign trade. These trading schemes include Emissions trading, carbon offsets, performance-based payments (result-based payments), carbon levies, and other mechanisms that will be developed according to scientific developments. According toThe Last Supper (2020), The existing regulations and supporting systems are sufficient as a basis for Indonesia to organize carbon trading, both domestically and internationally. It is hoped that this will have an impact on the Indonesian economy and have an impact on reducing emissions in Indonesia.

2. Research methods

2.1 Observation: In the research, the author conducted direct observations regarding the impacts, especially on manufacturing companies that produce a lot of emissions.

2.2 Literature: In writing this, the author read and listened a lot to developments in GHG and carbon trading from social media and from television information that is continuously updated by the Ministry of Environment Indonesia.

3. Results and Discussion

3.1. Presidential Regulation Number 98 of 2021 has regulated the Economic Value of Carbon (NEK)

Presidential Regulation Number 98 of 2021 has regulated the Economic Value of Carbon (NEK) and its technical procedures have also been regulated in the implementing regulations of the Minister of Environment and Forestry (LHK) regulations. In Perpres 98, carbon trading procedures have been regulated for both domestic and foreign trade. These trading schemes include Emissions trading, carbon offsets, performance-based payments (result-based payments), carbon levies, and other mechanisms that will be developed according to scientific developments.(Prihatiningtyas et al., 2023).

Presidential Regulation Number 98 of 2021 regulates the Economic Value of Carbon (NEK) in Indonesia. The following is the essence of the regulation:

1. Purpose

This regulation aims to regulate the mechanism of carbon economic value as part of climate change mitigation efforts in Indonesia. This includes reducing greenhouse gas emissions to achieve the contribution targets set in the Paris Agreement.

2. Carbon Economic Value Mechanism

The Last Supper (2024), This regulation regulates various carbon economic value mechanisms that can be applied, including:

- **Carbon Trading**: A system in which carbon credit units can be traded between parties producing emissions and parties reducing emissions.
- **Carbon Tax**: Imposing a tax on greenhouse gas emissions to encourage emission reductions.
- **Carbon Offsetting Initiative**: Projects that aim to reduce or absorb greenhouse gas emissions, such as reforestation and renewable energy.

3. Framework and Institutions

This regulation establishes the framework and institutions for the implementation of carbon economic value, including the roles and responsibilities of ministries, institutions, local governments, and the private sector. This includes monitoring, verification, and reporting of carbon emissions and credits.

4. Emission Reduction Targets

This regulation supports Indonesia's efforts to achieve the target of reducing greenhouse gas emissions by 29% with its own efforts and up to 41% with international assistance by 2030, as stated in Indonesia's Nationally Determined Contribution (NDC).(Panggabean, 2021).

5. Functions and Benefits

ImplementationEconomic Value of Carbon (ECC)It is expected to encourage the use of environmentally friendly technologies, improve energy efficiency, and promote green investment. It also aims to integrate environmental management into economic and social development.(Elsa & Utomo, 2022).

6. Monitoring and Reporting

This regulation establishes the obligation for periodic monitoring and reporting of greenhouse gas emissions by entities involved in activities that generate emissions. This is to ensure transparency and accountability in emissions management.

7. Private Sector Participation

This regulation encourages active participation of the private sector in emission reduction efforts through schemes.Economic Value of Carbon (NEK), by providing incentives and support for carbon-based initiatives.

3.2. Carbon Trading in the Current Market is Very Diverse, There are Various Carbon Crediting Schemes

According toSuyanto (2023),Carbon credits are financial instruments that represent a reduction in Greenhouse Gas (GHG) emissions of one ton of carbon dioxide equivalent (CO2e). Carbon credits can be obtained from projects that aim to reduce, eliminate, or avoid Greenhouse Gas (GHG) emissions, such as renewable energy projects, reforestation, or energy efficiency improvements.

There isThere are many carbon certification schemes in existence. Each of these schemes may have different standards, procedures and methodologies. In this case, as is also done or known in the context of other goods and services trade, Mutual Recognition Agreements (MRAs) in carbon trade can be used for various purposes, including increasing trust in accreditation results, increasing trade volumes, facilitating international carbon cooperation, and minimizing market barriers.(Abdhy Waliad, 2023). Mutual Recognition Agreement (MRA) can be carried out between owners of Greenhouse Gas Emission Reduction Certificate (SPE GRK) issuance schemes, both by government and non-government institutions. The regulatory modalities in implementing the Mutual Recognition Agreement (MRA) have been regulated in Presidential Regulation 98 of 2021 (Article 77) and Ministerial Regulation of the Environment and Forestry 21 of 2022 (Article 70).

There are several examples of Mutual Recognition Agreements (MRAs) where countries or jurisdictions have agreed to recognize each other's carbon trading schemes, such as the agreement between the European Union and Switzerland that recognize each other's carbon schemes. In this cooperation, often referred to as market linking, carbon units similar to PTBAE-PU from the European Union mechanism can be traded in the Swiss jurisdiction, and vice versa. Meanwhile, the Mutual Recognition Agreement (MRA) for carbon trading conducted between certification schemes has not been carried out comprehensively. However, several schemes carry out partial and/or non-institutionalized recognition, such as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) which does not organize its own certification scheme but allows the use of carbon units from several selected schemes, the Gold Standard which allows the use of the Clean Development Mechanism methodology, and several other examples.

1. Carbon Credit Mechanism

Carbon credits function in emissions trading schemes (*cap and trade*) and voluntary carbon markets. In a cap-and-trade scheme, the government sets a limit (cap) on the total amount of emissions allowed for a particular industry or sector. Companies that emit below the limit can sell their excess carbon credits to companies that emit above the limit.

2. Types of Carbon Credits

- Compliance Carbon Credits: Used by countries or entities to meet legal or regulatory obligations related to emissions, such as in the European Union Emissions Trading scheme (EU ETS).
- Voluntary Carbon Credits: Used by individuals, companies or organizations who voluntarily want to reduce their carbon footprint outside of legal obligations. This voluntary market is often used for Corporate Social Responsibility (CSR) purposes.

3. Carbon Credit Creation Process

- Project Identification: Projects that reduce emissions, such as the construction of wind farms or tree planting programs.
- Verification: Projects must be verified by an independent third party to ensure that emission reductions are real and measurable.
- Credit Issuance: After verification, the project can receive carbon credits equivalent to the amount of emission reductions generated.

3.3 In the national context, are there any regulations that serve as a basis for implementation?*Mutual Recognition Agreement*(MRA). Apart from that, if there is a regulatory mandate, are there any implications for foreign carbon trading?

Presidential Regulation 98 of 2021 Article 77 broadly regulates that the management of mutual recognition cooperation is carried out through mutual disclosure of information on the use of Monitoring, Review, and Verification (MRV) standards, conducting conformity assessments on the use of international standards and/or Indonesian National Standards, statements of conformity assessment results against international standards and/or Indonesian National Standards, creating and implementing mutual recognition cooperation, and recording certifications recognized by both parties in the SRN PPI.

Meanwhile, the procedure for carrying out Mutual Recognition Cooperation in more detail is regulated through Ministerial Regulation 21 of 2022 Article 68 and Article 70. The concrete steps taken are to mutually open the Monitoring, Review, and Verification (MRV) system, agree on the methodology, registration system and Validation/Verification Institution (LVV) used to guarantee and control the quality of the carbon units produced. I can conclude that the modalities and procedures are in principle complete in the regulations, so that*Mutual Recognition Agreement*(MRA) can be operationalized to overcome international carbon market barriers. For Business Actors who have already had an Emission Reduction Certificate issued by another Institution, they can conduct foreign carbon trading after there is mutual recognition cooperation and are recorded in the National Registration System for Climate Change Control (SRN PPI).

4. Conclusion

Greenhouse Gas (GHG) emissions can be a source of national problems in dealing with climate change, activities to reduce greenhouse gas emissions are urgent to be resolved so that health, food security and scarcity can be overcome. Reforestation efforts, carbon trading that continues to be strategized and regulated by the government are the goals of a cleaner and healthier Indonesian environment. These regulations include those regulated in Presidential Regulation Number 98 of 2021 which has regulated the Carbon Economic Value (NEK) and its technical procedures have also been regulated in the implementing regulations of the Minister of Environment and Forestry (LHK) regulations.

References

Abdhy Waliad, S. (2023). *Pengaturan Terhadap Pemanfaatan Jasa Karbon Sebagai Upaya Perlindungan Hutan Di Indonesia*. Universitas Andalas.

Elsa, H. U., & Utomo, R. (2022). Menimbang Kesiapan Penerapan Carbon Pricing di Indonesia dengan Studi pada Kanada, Britania Raya, dan Australia. *Jurnal Pajak Indonesia (Indonesian Tax Review)*, *6*(2), 410–435.

Fauzi, E. W., Pratama, R. R., Aditya, R., Mahestina, D., & Agustanta, N. (2023). Net Zero Emission: Tinjauan Urgensi Pajak Karbon Dan Implementasi Di Indonesia. *Journal of Public Policy and Administration Research*, *8*(3), 10.

Iswandi, U., & Dewata, I. (2020). *Pengelolaan Sumber Daya Alam*. Yogyakarta : Deepublish.

Khoerunnisa, F. (2024). *Analisis Persepsi Wajib Pajak Terhadap Penerapan Pajak Karbon*. Universitas Islam Indonesia.

Panggabean, B. T. G. B. (2021). Kesiapan Indonesia dalam memenuhi nationally determined contribution (ndc) seb agaiimplement asi paris agreement terkait restorasi lahan gambut. *" Dharmasisya" Jurnal Program Magister Hukum FHUI*, *1*(1), 21.

Prihatiningtyas, W., Wijoyo, S., Wahyuni, I., & Fitriana, Z. M. (2023). Perspektif Keadilan dalam Kebijakan Perdagangan Karbon (Carbon Trading) di Indonesia Sebagai Upaya Mengatasi Perubahan Iklim. *Refleksi Hukum: Jurnal Ilmu Hukum*, *7*(2), 163–186.

Suyanto, S. (2023). *Buku Referensi: Mengenal Bursa Karbon di Indonesia*. Serang Banten : CV. AA. Rizky

Syaharani, S., & Tavares, M. A. (2020). Nasib Target Emisi Indonesia: Pelemahan Instrumen Lingkungan Hidup di Era Pemulihan Ekonomi Nasional. *Jurnal Hukum Lingkungan Indonesia*, *7*(1), 1–27.

Triastuti, U. H., Sholihah, K., Nugraha, B. N., & Nugroho, D. A. (2022). Pengarusutamaan Rencana Program Mitigasi Perubahan Iklim dengan Pendekatan Kelembagaan di Kementerian Perhubungan. *Warta Penelitian Perhubungan*, *34*(1), 9–22.