



Original Article

Comparative Study of Carbon Tax Regulations in Indonesia and Singapore

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Abstract:

Climate change has become a global issue that urges countries to take concrete steps to reduce carbon emissions. Carbon tax is seen as a strategic fiscal instrument to achieve low-emission development. This study aims to compare the legal frameworks and carbon tax policies in Singapore and Indonesia, while assessing their implementation within the context of fiscal justice and environmental law. This research uses a normative juridical comparative approach, which analyzes laws and regulations. The study findings indicate that Singapore implements a fixed rate carbon tax based on emission threshold alongside mandatory emissions reporting. Whilst Indonesia has only just begun implementing carbon tax with a minimum rate that is deemed too low as well as the lack of adequate technical regulations. Substantively, Indonesia still faces obstacles in determining the allocation of revenue from the carbon tax and ensuring the effectiveness of tax rates to influence economic behavior. This study concludes to emphasize the need for reformulation of carbon tax policy in Indonesia by adopting the polluter pays principle, implementing a mandatory emissions reporting system, and strengthening derivative regulations to be more adaptive and responsive to the challenges of climate change. Singapore's experience can serve as an important reference in designing a fairer and more effective carbon tax policy in Indonesia.

Keywords: Allocation, Carbon Emissions, Comparative Study, Carbon Tax, Tax Rates



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Introduction

Climate change refers to the phenomenon of long-term shifts in temperature and weather patterns. This shift can occur naturally, due to changes in solar activity or large volcanic eruptions. However, since the 1800s, human activity has been the predominant cause of climate change, mainly due to the burning of fossil fuels such as coal, oil and gas. Burning these fuels releases greenhouse gases, which accumulate in the atmosphere and form an

insulating layer around the Earth, thereby trapping solar heat and leading to a rise in global temperatures ([United Nation, 2025](#)). Typically, this phenomenon has always been a major and concerning environmental issue. One of the main factor being carbon dioxide ("CO₂") emissions, which can increase greenhouse gases in the atmosphere, contributing to climate change, leading to global warming, environmental invasion, and even raw material shortages. ([Rehman et al., 2021](#)). Therefore, more than 170 countries in the world agreed to draft the 1992 United Nations Framework Convention on Climate Change ("UNFCCC") and the 2009 Copenhagen Accord from the 15th Conference of the Parties ("COP15"). Although the UNFCCC does not explicitly state limits on the use of fossil fuels, which, if excessive, can cause excessive CO₂ emissions, COP15 emphasized that countries around the world must use all efforts and instruments to minimize CO₂ emissions ([Qanita & Sadiawati, 2025](#)).

The impositioning of carbon tax can be one of the instruments that may help to overcome the problem of CO₂ emissions. Carbon tax is a form of levy imposed on economic activities that produce carbon emissions, primarily from the use of fossil fuels such as coal, oil, and natural gas. This tax policy is aimed at parties who pollute the environment who then shall be charged for their environmental impacts, thus reducing the use of fossil fuels that cause CO₂ emissions ([Rachmany, 2020](#)). Carbon tax primarily serves as a regulatory instrument, encouraging businesses and consumers to shift toward cleaner, more environmentally friendly energy. Furthermore, carbon tax also serves as a budgetary function, allowing the government to use the revenue generated to fund various climate change mitigation and adaptation programs. ([Rahmasari et al., 2024](#)).

Finland is the first country in the world to implement carbon tax policy. The policy, launched in 1990, which made Finland a pioneer in internalizing environmental costs into the national tax system. Meanwhile, Singapore began implementing carbon tax policy in 2019, making it the first country in Southeast Asia to implement carbon tax policy. The imposition of carbon tax in Singapore is regulated by the Carbon Pricing Act 2018 ("CPA 2018"), which requires businesses with emissions above 25,000 tonne of CO₂ per year to pay a tax of S\$5 per tonne of CO₂ as of 2019-2023 and S\$25 per ton CO₂e as of 2024-2025 (Jeremy et al., 2022). The earning from this tax will be used to fund a green development plan, also known as the Singapore Green Plan 2030. Singapore aims to reduce the use of CO₂ emissions in various sectors and achieve net zero emissions as emphasized in the 26th United Nations Climate Change Conference ("COP26") ([Authority, 2025](#)).

Whilst in Indonesia, the plan on imposing carbon tax has begun to develop alongside the government's commitment to ratify Law Number 7 of 2021 on the Harmonization of Tax Regulations ("HPP Law"). In Article 13 Paragraph (9) of the HPP Law, the carbon tax is imposed at a minimum rate of IDR 30.00 per kg of CO₂ equivalent. The mechanism used is cap and tax, namely a combination of a fixed upper limit of emissions as well as carbon trading system. On April 1, 2022, the carbon tax policy was implemented in the coal-fired steam power generation sector, and full implementation is planned to begin in 2025 expecting the readiness of the carbon market and supporting technical regulations ([Hanafi et al., 2025](#)).

Despite the fact that Indonesia already has a legal basis for imposing carbon tax, its implementation still faces various challenges. These include the low tax rate, the lack of comprehensive technical regulations, and the limited preparedness of the industrial sector to implement the policy ([Hanafi et al., 2025](#)). In contrast, Singapore already has a well-established carbon tax system integrated with sustainable development policies. For

reference, the following table compares the implementation of carbon taxes between Indonesia and Singapore, based on previous research.

Table 1. Comparison of Carbon Tax Implementation Between Indonesia and Singapore

Factor	Indonesia	Singapore
Year	2022 (Early Implementation) 2025 (Full Implementation)	2019
Legal Basis	Law Number 7 of 2021 dan Presidential Regulation Number 98 of 2021	<i>Carbon Pricing Act of 2018 Number 23</i>
Scheme	Combination of carbon market and tariff	Annual threshold-based emission carbon tax
Tax Revenue Objective	State budget funding and funding towards a low-carbon economy	Singapore Green Plan
Supporting Policies	Carbon tax Roadmap	Singapore Green Plan development incentives
Main Challenges	Readiness of market and industrial sector	Gradually transition to higher carbon tax rates

Carbon taxes play a strategic role in reducing carbon emissions while supporting the transition to a green economy. The success of carbon tax implementation depends not only on the tariff rate imposed, but also on the existence of supporting systems, such as fiscal incentives, energy reform, public socialization, and adjustment of sectoral regulations. Drawing on Singapore's experience, Indonesia needs to design carbon tax policy that not only effectively targets emissions reductions but is also flexible and adaptable to national economic dynamics. Therefore, a comparative study of the regulations and mechanisms for implementing carbon taxes in several countries is crucial in order to formulate policy recommendations relevant to Indonesia's conditions and needs.

The purpose of this study is to analyze the concept of regulation and challenges in the implementation of carbon tax policies in Indonesia, as well as to examine and compare legal regulations regarding carbon tax in the Indonesian legal system with those in Singapore, thus gaining a comprehensive understanding of the effectiveness, suitability, and potential for improvement of carbon tax policies in the context of national and international law.

Research Method

The research method used in writing this article is the normative legal research method, which focuses on analyzing applicable legal norms, whether in the form of legislation, legal principles, or legal doctrines relevant to the issue being studied. Normative legal research focuses on how the law should apply (*das sollen*), rather than how the law is applied in practice (*das sein*) (Soekanto & Mamudji, 2018). Thus, this research is conceptual and theoretical in nature because it aims to find the principles, rules, and legal concepts that underlie a legal problem.

In collecting data, this research uses library research, with data sources consisting of secondary data, namely primary, secondary, and tertiary legal materials. Primary legal materials include legislation relevant to the legal issues discussed, secondary legal materials include books, journals, legal expert opinions, and previous research results, while tertiary

legal materials include legal dictionaries, encyclopedias, and other supporting sources ([Maiyestati, 2022](#)).

Furthermore, this study uses two approaches, namely the normative approach and the comparative approach. The normative approach is used to examine applicable legal provisions and legal principles relevant to the issue under review, while the comparative approach is used to compare the laws of one country with those of another in order to identify similarities and differences in legal regulations, thereby providing a more comprehensive perspective in addressing the legal issues under review ([Marzuki, 2017](#)).

Result and Discussion

Concept of Carbon Tax Regulation and Challenges of Imposing Carbon Tax Policy in Indonesia

Imposing Carbon Tax Policy is Indonesia's answer and solution to resolve the climate crisis and climate change, which signified by an increase in carbon emissions of up to 41.4 million tons in 2021 ([Dihni, 2022](#)). The carbon tax policy is a form of articulation of the principle of sustainable development, which aims to balance economic growth with improvements in environmental quality ([Diaz et al., 2023](#)). In this case, Indonesia has HPP Law as the legal basis for the government in determining carbon tax fiscal policies.

The constitutional foundation of carbon tax and the HPP Law is Article 28H paragraph (1) of the 1945 Constitution of the Republic of Indonesia ("UUD 1945"). It states that everyone has the right to live in physical and spiritual prosperity, to have a home, and to have a good and healthy environment. This is reinforced in Article 33 paragraph (4) of the 1945 Constitution of the Republic of Indonesia, which affirms that the economy is structured based on economic democracy based on the principles of justice, sustainability, and environmental awareness. Conceptually, this provision shows that fiscal policies such as the carbon tax are not merely economic efforts, but also the fulfillment of the people's constitutional rights (Green Constitution) ([Qanita & Sadiawati, 2025](#)). This shows that the Indonesian constitution fundamentally considers environmental sustainability as one of the constitutional rights that must be fulfilled for the sake of the people.

Thus, legal provisions are needed, such as the HPP Law and Law Number 32 of 2009 on Environmental Protection and Management ("PPLH Law"). Both laws reflect the concept of Indonesian carbon tax policy, which aligns with the "Polluter Pays" principle, of which is an international environmental law principle that states that those who pollute the environment are obliged to bear the costs of remediation. This is also reflected in Articles 42 and 43 of the PPLH Law, which regulate environmental economic instruments in the form of incentives and disincentives, including taxes. Considering that the carbon tax must be positioned as a disincentive instrument to reduce emissions and strengthen environmental conservation, this makes the HPP Law and the PPLH Law an integrated legal framework that supports an environmental economic approach ([Harris & Ramadhan, 2022](#)).

In general, the HPP Law emphasizes that every tax policy must be based on the principles of justice, legal certainty, utility, and simplicity, as stated in Article 1 Paragraph (1) of HPP Law. The principle of justice means that parties who cause pollution or environmental damage are obliged to bear the costs of the resulting impact, this principle is known as the polluter pays principle. Meanwhile, legal certainty requires that all business actors obtain transparency regarding the applicable tax mechanisms, subjects, and objects. These principles

are the foundation for formulating technical carbon tax policies in the future, because Article 1 Paragraph (1) of the HPP Law implicitly emphasizes the importance of tax policies that are beneficial to the environment and guarantee fairness among economic actors. These principles are in line with the concept of the "Pigouvian Tax" namely a tax imposed on negative externalities to encourage efficiency in resource allocation. ([Nurhayati et al., 2024](#)).

Despite its benefits, there are several issues that must be highlighted regarding Indonesia's carbon tax regulations. The first issue is how and to whom the proceeds from the carbon tax will be allocated. From a fiscal perspective, carbon tax should ideally function as a tool for redistributing economic justice. Specifically, as a fiscal policy, carbon tax should reflect the principles of social justice, transparency, and collective benefit ([Hafizd, Janwari, et al., 2024](#)). Hence, state revenue from carbon taxes should not only go into the state treasury, but should be reallocated to green transportation subsidies, assistance for energy-vulnerable households, and the development of clean energy technology ([Sari, 2024](#)). If not, then the imposition of carbon tax could become a regressive instrument that burdens the common people instead of promoting general welfare ([Putri & Septyan, 2023](#)).

The second problem that arises is that the carbon tax rate is too low to achieve the target set in Nationally Determined Contribution (NDC). This article states that the carbon tax rate is IDR 30.00/kg CO_{2e}, which, when converted, is only around USD \$2 per ton. This figure is far below the international standard recommended by the World Bank, namely an optimal rate of USD \$35-100 per ton to create a significant effect in reducing emissions ([Pratama & Mumpuni, 2025](#)). Several observers believe that Indonesia's carbon tax rate is relatively low compared to Singapore's, which sets a rate of US\$3.71 per ton of CO_{2e}. Yet, Indonesia is among the top 10 countries with the highest carbon emissions in the world and produces significantly more emissions than Singapore. This raises serious questions about the effectiveness of Indonesia's carbon tax rates. Even if the 29% emission reduction target by 2030 is to be achieved, progressive tariff adjustments based on emissions intensity are necessary. Otherwise, these low rates will merely be symbolic and will not encourage meaningful changes in economic behavior ([Wahyuni, 2023](#)).

Comparison of Legal Provisions and Carbon Tax Policies in Indonesia and Singapore

Carbon taxes have become a key instrument for encouraging greenhouse gas emission reductions in various countries. Indonesia and Singapore, as Southeast Asian countries, have different approaches to designing and implementing carbon taxes, particularly regarding tariff structures, sector coverage, and collection mechanisms.

Firstly, in terms of tax rate structure, Indonesia implements a carbon tax rate of IDR 30.00 per kilogram of CO_{2e} based on the HPP Law. This rate is considered relatively low compared to international standards, so its incentive effect on changing industrial behavior is still limited. In contrast, Singapore has set an initial rate of US\$5 per ton of CO_{2e} since 2019, with an increase to S\$25 per ton of CO_{2e} in 2024-2025, sending a stronger economic signal to companies to reduce emissions. This difference indicates that Singapore is more aggressive in using the carbon tax as an emissions control instrument, while Indonesia still applies a conservative rate to maintain economic stability.

Secondly, In terms of sector coverage, Indonesia has begun implementing a carbon tax on the energy sector that uses fossil fuels and certain heavy industries. However, this

coverage remains limited, and many other sectors with high emission potential are not included. Singapore, on the other hand, has imposed carbon tax on industrial sectors that emit more than 25,000 tons of CO₂e per year, including the energy sector, manufacturing, and certain commercial buildings. This approach focuses more on high-emissions, making tax implementation more efficient and having a tangible impact on national emissions reductions.

Thirdly, In terms of levy mechanisms, Indonesia regulates that carbon tax is collected through the Directorate General of Taxes, following procedures similar to other taxes and reporting is carried out by taxpayers monthly or in accordance with the provisions of derivative technical regulations. This mechanism still requires further development regarding the monitoring, reporting, and verification (MRV) system to ensure accurate emissions data. Meanwhile, Singapore uses a more integrated mechanism, where taxable companies are required to report their annual emissions to the National Environment Agency (NEA), and tax payments are made annually. This system is equipped with clear regulations and guidelines regarding emissions verification, thus ensuring compliance and transparency.

Overall, the differences between Indonesia and Singapore in terms of tax rate structure, sector coverage, and levy mechanisms reflect the maturity of each country's carbon tax policies. Singapore emphasizes progressive tariffs, efficient coverage, and integrated collection mechanisms, whilst Indonesia is still in its early stages of implementation, with low tax rate, limited sector coverage, and inadequate administrative system that needs strengthening. Lessons learned from Singapore may serve as a reference for Indonesia in developing a more effective, adaptive carbon tax policy that significantly impacts emissions reductions and the transition to a green economy. The following table summarized the comparison of the carbon tax regulations in Indonesia and Singapore.

Table 2. Comparison of Indonesia's Carbon Tax Regulations with Singapore's

Factor	Indonesia	Singapore
Legal Basis	Law Number 7 of 2021 On Harmonization of Tax Regulations (HPP) Presidential Regulation Number 98 of 2021 on Carbon Economic Value (NEK) Presidential Regulation Number 110 of 2025 on Implementation of NEK Instruments	<i>Carbon Pricing Act (CPA) 2019</i>
Year	Early Implementation on 2022 (limited to coal-fired power plants)	1 January 2019
Carbon Tax Rates	IDR30,00 per kg CO ₂ e (\$2 per ton CO ₂ e)	S\$5 per ton CO ₂ e (2019-2023) S\$25 per ton CO ₂ e (2024-2025)
Sector Coverage	Energy (especially coal-fired power plants), process and product industries (IPPU), waste, forestry, agriculture	Large industries, power plants, water, waste, manufacturing
Threshold	No national standard threshold; sector-based implementation.	Facilities that produce more than 25,000 tonnes of CO ₂ e per year are imposed to the carbon tax; Facilities that produce 2,000 to less than 25,000 tonnes of CO ₂ e per year only need to report

Levy Mechanism	Through a carbon tax and carbon trading system; integration with the NEK scheme	Direct tax on annual emissions; report and payment to the National Environment Agency (NEA)
Policy Approach	<i>Hybrid approach</i> : combining carbon tax, carbon trading, and carbon economic value	<i>Fixed carbon tax approach</i> with gradually increasing rates
Main Goals	Control greenhouse gas emissions in line with the 2030 NDC targets and support domestic carbon markets.	Reducing emissions and signaling carbon price for clean innovation

Article 13 Paragraph (1) of the HPP Law is the substantive legal basis for the imposition of carbon tax. This provision stipulates that CO₂ emissions are a taxable object that is not limited to just one sector. This provides the government with the flexibility to expand and define which sectors produce CO₂ emissions and can have a negative impact on the environment. This reinforces the Pigouvian Tax approach, because business actors from various sectors that pollute the environment must and are required to pay financial compensation through a tax mechanism ([Maghfirani et al., 2022](#); [Sari, 2024](#)).

Article 13 Paragraph (5) of the HPP Law explains that the subjects of the carbon tax are legal subjects, namely both individuals and legal entities. In that paragraph, present the phrase "and/or" which means that legal subjects, whether in the context of consumption or production, if they carry out activities that cause CO₂ emissions, will result in said legal subject to be taxed. This article is crucial to clarify further, considering that in addition to legal subjects in the production sector, legal subjects in the consumption sector can also cause emissions such as the power generation sector, cement industry, fertilizer. This article's paragraph serves as the legal basis for identifying taxable entities.

Article 13 of the HPP Law contains delegative provisions that direct the technical formulation of carbon tax regulations through derivative regulations. To date, the derivative regulation for the carbon tax made is Presidential Regulation Number 98 of 2021 on the Implementation of the Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control Greenhouse Gas Emissions in National Development (PERPRES 98/2021). PERPRES 98/2021 essentially aims to regulate the implementation of the Carbon Economic Value (NEK) so that greenhouse gas emissions can be controlled on a market-based basis and through fiscal policy.

On the other hand, Singapore has demonstrated its commitment to the UNFCCC and the Kyoto Protocol. Through the CPA 2018, Singapore can implement the CPA 2018 and carbon tax, thereby reducing emissions and achieving a low-carbon economy ([Tseng, 2022](#)). Additionally, as a form response to the Kyoto Protocol, Singapore also held the Singapore's National Climate Change Strategy (NCCS), of which is a national strategy that implements the principles of the UNFCCC as a policy (Soft law), emphasizes on mitigating Greenhouse Gas emissions without sacrificing economic growth as well as reducing emissions based on the energy, building, and transportation sectors ([Pratama & Mumpuni, 2025](#)).

Both the CPA 2018 and the NCCS reflect Singapore's commitment on implementing the UNFCCC into national practice. Notably by implementing the principles of polluter pays, transparency, cost-effectiveness, and transitional justice. In this context, Singapore demonstrates that domestic regulations can be designed not merely as a formality to meet

international responsibilities, but also to strengthen the national legal and institutional foundations for addressing climate change. The legal basis of the CPA 2018 authorizes the National Environment Agency (NEA) to establish standards for reporting and accounting for emissions, as well as administer carbon tax collections. With this policy cemented, Singapore is able to achieve and succeed its Singapore Green Plan 2030, of which makes carbon tax a key pillar in the transition to a green economy ([Chng & Ong, 2021](#))

Conclusion

Indonesia has a relatively strong legal basis for imposing carbon tax, reflected in the HPP Law and the UUPPLH. However, from a substantive and fairness perspective, the current carbon tax regime still faces several weaknesses, including unclear revenue allocation mechanisms and relatively low rates compared to international standards. This situation highlights the need for changes to the carbon tax system to make the policy more effective, transparent, and able to play a significant role in controlling emissions.

To catch up with Singapore, Indonesia's carbon tax reform should not only focus on fiscal aspects, but also integrate an actual emissions-based approach and consider sectoral equity. Indonesia could adopt practices such as mandatory emissions reporting and carbon intensity-based tariffs, similar to Singapore's, and align national energy tariffs with environmental tax principles. This would make Indonesia's carbon tax policy more adaptive, progressive, and in line with the "polluter pays" principle recognized in international environmental law.

There is a need for the government to reform its carbon tax policy with several strategic steps, including setting more significant tariffs to encourage emissions reductions, allocating tax revenue transparently and effectively, and implementing a standardized mandatory emissions reporting system. These are reckoned to ensure the carbon tax policy aligns with the principles of fairness, efficiency, and environmental sustainability.

References

- Authority. (2025). Green Building Masterplans. *Building and Construction Authority*.
- Chng, K., & Ong, K. W. (2021). The Singapore Green Plan 2030: Analysing its implications on law and the legal industry in Singapore. *Environmental Law Review*, 23(4), 336–343. <https://doi.org/10.1177/14614529211052597>
- Diaz, M. R., Putri, J. K., Kwan, H., & Gaol, H. S. L. (2023). Kebijakan Pajak Karbon Sebagai Strategi Pembangunan Ekonomi Berkelanjutan. *Jurnal Magister Hukum Argumentum*, 9(1), 156–164. <https://doi.org/10.24123/argu.v9i1.5763>
- Dihni, V. A. (2022). Emisi Karbon dari Kebakaran Hutan Indonesia Capai 41,4 Juta Ton pada 2021. <https://databoks.katadata.co.id/energi/statistik/82840a5c72ec1ff/emisi-karbon-dari-kebakaran-hutan-indonesia-capai-414-juta-ton-pada-2021>
- Hafizd, J. Z., Janwari, Y., & al Hakim, S. (2024). Kebijakan Fiskal di Indonesia: Analisis Hukum Keadilan Ekonomi dan Implikasi bagi Pembangunan Berkelanjutan. *IQTISHOD: Jurnal Pemikiran Dan Hukum Ekonomi Syariah*, 3(2), 146–167. <https://doi.org/https://doi.org/10.69768/ji.v3i2.58>
- Hanafi, N., A'ini, M. N., Diana, R. S. N., Prabowo, W. A., Rohmadi, A., & Fitrianto, M. R. (2025). Studi Komparasi Penerimaan Pajak Karbon Antara Indonesia Dan Singapura Sebagai Instrumen Penting Mewujudkan Sdgs. *Jurnal Nova Idea*, 1(2), 126–135.
- Harris, R. F., & Ramadhan, M. F. A. (2022). Formulasi Yuridis Terhadap Urgensi Perancangan Kebijakan Pajak Karbon Sebagai Pendorong Transisi Energi Baru Terbarukan Berdasarkan Pancasila. *Ikatan Penulis Mahasiswa Hukum Indonesia Law Journal*, 2(2), 157–171. <https://doi.org/10.15294/ipmhi.v2i2.54653>

- Maghfirani, H. N., Hanum, N., & Amani, R. D. (2022). Analisis Tantangan Penerapan Pajak Karbon Di Indonesia. *Juremi: Jurnal Riset Ekonomi*, 1(4), 314–321.
- Maiyestati. (2022). *Metode Penelitian Hukum*. LPPM Universitas Bung Hatta.
- Marzuki, P. M. (2017). *Penelitian Hukum*. Kencana Prenada Media Group.
- Nurhayati, Y., Ifrani, Said, M. Y., & Yanova, M. H. (2024). Carbon Pricing Policy to Support Net Zero Emission: A Comparative Study of Indonesia, Finland and Sweden. *Environmental Policy and Law*, 54(1), 53–63. <https://doi.org/10.3233/EPL-230047>
- Pratama, A., & Mumpuni, N. W. R. (2025). Analisis Pengaturan Pajak Karbon di Indonesia Ditinjau dari Prinsip Pencemar Membayar (Polluter Pays Principle) (Studi Komparatif dengan Negara Singapura). *Jurnal Hukum Lex Generalis*, 6(1). <https://doi.org/https://doi.org/10.56370/jhlg.v6i1.928>
- Putri, A. S., & Septyan, K. (2023). Kritik Terhadap Pajak Karbon Dalam Bingkai Keadilan Islam. *Imanensi: Jurnal Ekonomi Manajemen Dan Akuntansi Islam*, 8(1), 43–54. <https://doi.org/10.34202/imanensi.8.1.2023.43-54>
- Qanita, S. Y., & Sadiawati, D. (2025). Carbon Tax Regulation In Indonesia: A Comparative Review With Singapore. *Awang Long Law Review*, 7(2), 340–348. <https://doi.org/https://doi.org/10.56301/awl.v7i2.1533>
- Rachmany, H. (2020). A Study Of Possible Imposition Of Carbon Taxes In Indonesia. *Journal of Tax and Business*, 1(1), 54–66. <https://doi.org/https://doi.org/10.55336/jpb.v1i1.3>
- Rahmasari, D., Iskandar, S. A., & Prasetya, R. D. (2024). Carbon Tax Study As A Social Engineering Tool in Realizing The Agenda of Sustainable Development Goals (SDGs) in Indonesia. *Ikatan Penulis Mahasiswa Hukum Indonesia Law Journal*, 4(1), 147–165. <https://doi.org/10.15294/ipmhi.v4i1.71582>
- Rehman, A., Ma, H., Ahmad, M., Ozturk, I., & Chishti, M. Z. (2021). How do climatic change, cereal crops and livestock production interact with carbon emissions? Updated evidence from China. *Environmental Science and Pollution Research*, 28(24), 30702–30713. <https://doi.org/10.1007/s11356-021-12948-0>
- Sari, I. Y. N. I. (2024). Kendala Dan Tantangan Penerapan Kebijakan Pajak Karbon: Kondisi Dan Harapan Masa Depan Pembangunan Ekonomi Hijau Di Indonesia. *Prosiding SNAPP: Sosial Humaniora, Pertanian, Kesehatan Dan Teknologi*, 2(1), 17–24. <https://doi.org/10.24929/snapp.v2i1.3115>
- Soekanto, S., & Mamudji, S. (2018). *Penelitian Hukum Normatif Suatu Tinjauan Singkat*. Raja Grafindo Persada.
- Tseng, S. (2022). Appraising Singapore's Carbon Tax Through the Lens of Sustainability. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4005891>
- United Nation. (2025). What Is Climate Change? *United Nations Publication*. <https://www.un.org/en/climatechange/what-is-climate-change>
- Wahyuni, F. (2023). Pajak Karbon Sebagai Instrumen Kebijakan Publik Untuk Mitigasi Perubahan Iklim: Telaah Kritis Dan Prospek Di Indonesia. *Visioner: Jurnal Pemerintahan Daerah Di Indonesia*, 15(2), 42–54. <https://doi.org/10.54783/jv.v15i2.906>
- Yeremy, J., Irawan, J., & Wimala, M. (2022). Kajian Penerapan Carbon Tax pada Industri Konstruksi di Singapura dan Indonesia. *RekaRacana: Jurnal Teknik Sipil*, 08(01), 42–51.