# Legal Frameworks for Carbon Taxation: A Comparative Study of Indonesia and Japan

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## Abstract

**Introduction:** The comparison of carbon tax regulations between Indonesia and Japan is highly relevant, considering that Japan has implemented a carbon tax policy earlier, on a larger scale, and with varying rates for different types of carbon emissions. By analyzing this comparison, Indonesia is expected to identify a more effective approach to reducing carbon emissions without hindering economic growth.

**Purposes of the Research:** The purpose of this legal comparison is to evaluate and propose a unification of carbon tax policies in Indonesia that better align with domestic conditions and needs, by taking into account the experiences of other countries, particularly Japan. This unification aims to create a more efficient and equitable carbon tax system that can support Indonesia's efforts in achieving its carbon emission reduction targets This unification aims to create a more efficient and equitable carbon tax system, and can support Indonesia's efforts to meet its carbon emission reduction targets.

**Methods of the Research:** This study uses a normative method with a comparative approach. The primary legal material used is a comparison between the Indonesian legal framework and the Japanese legal framework. Comparative analysis is focused on law in the context by using a micro approach, i.e. a comparison of legal norms.

Results Main Findings of the Research: This research contributes to the legal and policy discourse on carbon taxation by providing a comparative analysis between Indonesia and Japan, focusing on how regulatory design and economic instruments can balance environmental goals with industrial competitiveness. The study finds that while Japan's carbon tax operates within a mature regulatory framework supported by strong institutional coordination and public compliance, Indonesia's system remains at a formative stage, requiring detailed implementing regulations and clear emission accounting mechanisms. Both countries share the objective of promoting low-carbon transitions, but differ in tariff structure, policy maturity, and economic adaptability. Japan's experience demonstrates that consistent policy enforcement and alignment with renewable energy incentives enhance effectiveness, a lesson Indonesia can adopt to balance environmental protection with sustainable economic growths.

## Keywords: Comparison of Law; Carbon Tax; Environmental.

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#### INTRODUCTION

Tax is one of the main instruments in fiscal policy used by the state to finance various development sectors.<sup>1</sup> In simple terms, tax can be defined as a mandatory contribution paid by

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<sup>&</sup>lt;sup>1</sup> Alisyahdi, D. F., & Rahman, D. Z. "Re-Regulating Indonesian Stock Buybacks: Lessons from the United States' Tax Cuts". *Yuridika* 36, no. 3 (2021). 549–568. Https://doi.org/10.20473/ydk.v36i3.26826.

citizens to the state based on law, without receiving any direct compensation.<sup>2</sup> In the environmental context, the imposition of a carbon tax appears as a form of policy to reduce greenhouse gas emissions produced by various industrial activities and energy consumption.<sup>3</sup> The imposition of this carbon tax aims to provide incentives for companies and individuals to reduce their carbon footprint, by shifting consumption and production behavior towards more environmentally friendly practices.4

A carbon tax is a fiscal instrument aimed at reducing carbon dioxide (CO2) emissions by imposing a fee on activities that produce them. In Indonesia, the imposition of a carbon tax is regulated by Law Number 7 of 2021 concerning the Harmonization of Tax Regulations.<sup>5</sup> Although carbon taxes have great potential to support climate change mitigation efforts and increase state revenues, their implementation faces a number of serious challenges that need to be addressed.<sup>6</sup> The Indonesian government's plan to impose a carbon tax of IDR.30.00 per kilogram of CO2 equivalent demonstrates its commitment to reducing carbon emissions and meeting global climate change targets. However, the implementation of this policy, originally planned for 2022, has been postponed and is expected to be implemented in 2025. The primary focus of this carbon tax is high-emission sectors such as coal-fired power plants and industries dependent on fossil fuels.8 However, the implementation of this tax faces several issues that could affect its effectiveness and public acceptance. The problems of implementing a carbon tax in Indonesia are related to regulatory uncertainty, economic impact, market readiness, and potential inflation.<sup>10</sup> The lack of clarity in the legal regulations regarding the carbon tax,

<sup>&</sup>lt;sup>2</sup> Anggia, P. "The Influence of International Tax Policy on the Indonesian" Tax Law. Yuridika 35, no. 2 (2019): 343-362. https://doi.org/10.20473/ydk.v35i2.16873.

<sup>&</sup>lt;sup>3</sup> Binti Mohd Ariffin, R. A., Abd Ghadas, Z. A., & Bin Md Radzi, S. N. Enhancing Consumer Benefit Via Special Tax Scheme for Social Enterprise. Yuridika 38, no. 2 (2022): 285-304. https://doi.org/10.20473/ydk.v38i2.45360.

<sup>4</sup> Sarwirini., Fika Rahmayanti.. TESIS (1490) - Bank Indonesia Sebagai Subyek Dan Objek Pajak Penghasilan. Surabaya: Fakultas Hukum

<sup>&</sup>lt;sup>5</sup> Faig Aghabalayev and Manzoor Ahmad, "Does Innovation in Ocean Energy Generations-Related Technologies in G7 Countries Reduce Carbon Dioxide Emissions? Role of International Collaboration in Green Technology Development and Commercial and Monetary Policies.,"

Environmental Science and Pollution Research International 30, no. 6 (2022): 45–64, https://doi.org/10.1007/s11356-022-23081-x.

6 Younes Ahmadi, Akio Yamazaki, and Philippe Kabore, "How Do Carbon Taxes Affect Emissions? Plant-Level Evidence from Manufacturing,," Environmental & Resource Economics 82, no. 2 (2022): 285-325, https://doi.org/10.1007/s10640-022-00678-x.

<sup>&</sup>lt;sup>7</sup> Toshi H. Arimura, "International Efforts on Climate Change and Carbon Pricing in Japan" (Springer Nature Singapore, (2024), 23–45, https://doi.org/10.1007/978-981-97-2187-0\_9.

<sup>8</sup> Tomiwa Sunday Adebayo, "Do CO2 Emissions, Energy Consumption and Globalization Promote Economic Growth? Empirical Evidence from Japan," Environmental Science and Pollution Research International 28, no. 26 (2021): 14-29, https://doi.org/10.1007/s11356-021-12495-8.

<sup>9</sup> Helminen, Marjaana. "The International Tax Law Concept of Dividend". Alphen Aan Den Rijn: Kluwer Law International., (2010).

<sup>10</sup> Oestreicher, Andreas, Hammer, Markus. "Taxation of Income From Domestic and Cross - Border Collective Investment: A Qualitative and Quantitative Comparison": Switzerland., (2014)...

particularly Article 13 of the Harmonization of Tax Regulations, which contains complex provisions and does not yet provide a clear definition of the carbon tax, adds to the confusion for businesses. Furthermore, the implementation of a carbon tax could increase energy and goods prices, potentially burdening low-income groups.<sup>11</sup> Market readiness and regulatory mechanisms are also major challenges, where the government must ensure there are clear implementing regulations regarding carbon tax rates, calculations, and collection.<sup>12</sup> Moreover, in the context of a fragile economy, the imposition of a carbon tax could exacerbate inflation, adding pressure to an economy already experiencing the impacts of various global factors.<sup>13</sup>

The potential benefits of a carbon tax in Indonesia, despite facing various challenges, remain significant. A carbon tax can help reduce emissions by incentivizing industries to shift to environmentally friendly practices, and can also provide a source of state revenue that can be allocated to climate change mitigation projects and sustainable development. Furthermore, a carbon tax can encourage a transition to a green economy, which is Indonesia's long-term goal of achieving net-zero emissions by 2060. <sup>14</sup> Compared to conditions in Japan, Indonesia faces greater challenges in implementing a carbon tax. <sup>15</sup> Japan has already implemented a carbon tax policy through more detailed regulations, which allows the country to implement an effective and efficient tax system. <sup>16</sup> The carbon tax in Japan is designed with varying rates, referring to the emission levels of different types of fuel, and provides incentives for the industrial sector to switch to renewable energy. <sup>17</sup> In addition, Japan also has a more mature carbon market mechanism, which facilitates the monitoring and implementation of this policy. When compared to Japan, Indonesia is still in the early stages of implementing its carbon tax policy,

<sup>&</sup>lt;sup>11</sup> Nugraha, H. A., Rosidin, F. A., Hutama, W. R., & Wiratama, M. G. "The Authority Concerning the Collection of Groundwater Taxes After the Law No. 23 Year 2014 in the City of Surabaya". *Yuridika* 35, no. 3 (2020): 519–532. https://doi.org/10.20473/ydk.v35i3.17880.

<sup>&</sup>lt;sup>12</sup> Suhardi, I.." Penyatuan Hukum Pajak Formal Dalam Sistem Hukum Pajak Nasional". *Yuridika* 31, no. 1 (2016), 27 -. https://doi.org/10.20473/ydk.v31i1.1960,.

<sup>&</sup>lt;sup>13</sup> Johan, A. "The Income Tax of Breadwinner Wives in Indonesia: Law and Economics Approach". *Yuridika* 39, no. 2 (2024): 153–180. https://doi.org/10.20473/ydk.v39i2.49979,

<sup>&</sup>lt;sup>14</sup> Kenji Asakawa et al., "Double Dividend of the Carbon Tax in Japan: Can We Increase Public Support for Carbon Pricing?" (Springer Singapore, 2020), 235–55, https://doi.org/10.1007/978-981-15-6964-7\_13.

<sup>&</sup>lt;sup>15</sup> Fan Bie et al., "Role of Credit Subsidies and Financial Intermediation in China and Japan: Implications for Green Economic Growth," *Economic Change and Restructuring* 56, no. 3 (2023): 1925–41, https://doi.org/10.1007/s10644-023-09501-z.

<sup>&</sup>lt;sup>16</sup> Liu Cao et al., "Willingness to Pay for Carbon Tax in Japan," Sustainable Production and Consumption 52 (2024): 427–44, https://doi.org/10.1016/j.spc.2024.11.004.

<sup>&</sup>lt;sup>17</sup> Asli M. Colpan, Andrew Delios, and Takashi Hikino, "How Does Export Commitment and Product Diversity Affect the International Scope-Firm Performance Relationship?: Evidence from Japan," *Asian Business & Management* 12, no. 1 (2012): 142–72, https://doi.org/10.1057/abm.2012.32.

whereas Japan has accumulated extensive experience since the introduction of its carbon tax in 2012.

Japan's system is supported by a comprehensive regulatory framework that clearly defines emission measurement standards, tax collection mechanisms, and the allocation of revenues toward renewable energy initiatives. In contrast, Indonesia's framework remains under development, lacking detailed provisions in the form of a Ministry of Finance Regulation to operationalize the carbon tax effectively. The depth of Japan's regulatory design reflects a mature governance structure and institutional coordination that ensures policy consistency and compliance, while Indonesia's current challenge lies in establishing these foundational instruments to ensure that the carbon tax achieves both environmental and economic objectives

In Indonesia, despite the shared goal of reducing carbon emissions, the implementation of a carbon tax still faces several obstacles. 18 One of them is the lack of clarity in the regulations governing carbon taxes, especially in terms of determining more specific rates and transparency in calculating emissions.<sup>19</sup> Unlike Japan, which has had longer experience in implementing carbon taxes, Indonesia must face the challenge of drafting clearer implementing regulations, which regulate the rates and mechanisms for collecting carbon taxes while taking into account the economic and social conditions of the community.<sup>20</sup> One striking difference between the two countries is the readiness of the carbon market. Japan has a more developed and structured carbon market, allowing the industrial sector to adapt more quickly to carbon tax obligations. On the other hand, Indonesia needs to be more prepared in terms of establishing an effective carbon market and ensuring regulations that support the transition to a green economy.<sup>21</sup> The readiness of Indonesia's industrial sector to face carbon taxes also still needs to be encouraged through incentive policies and adequate technological support. 22, The urgency of comparing the laws regarding carbon taxation between Indonesia and Japan is

<sup>18</sup> Burke, J. Martin, Firel, Michael K. (2005). Understanding Federal Income Taxation (Second Edition). New York: LexisNexis., n.d.

<sup>19</sup> Aitong Li, "The Pending Commitment and Ongoing Political Divide on Carbon Pricing in Japan," Climate Policy 23, no. 7 (2023): 872-84, https://doi.org/10.1080/14693062.2023.2237491.

<sup>&</sup>lt;sup>20</sup> Ding Ding, "The Impacts of Carbon Pricing on the Electricity Market in Japan," Humanities and Social Sciences Communications 9, no. 1 (2022), https://doi.org/10.1057/s41599-022-01360-9.

<sup>&</sup>lt;sup>21</sup> Oliver, Philip D. Tax Policy: Readings and Materials. New York: The Foundation Press. 1996).

<sup>&</sup>lt;sup>22</sup> Valdi Sephtianeyuda Khairusy, Sarwirini. (2016). TESIS (2742) - Tax Evasion Dalam Transaksi Jual Beli Yang Dilakukan Oleh Ppat . Surabaya: Fakultas Hukum Unair.," 2016.

highly relevant, given that Japan has already implemented a carbon tax policy on a larger scale and with varying rates for various types of carbon emissions. This study presents novelty by addressing the legal vacuum surrounding carbon tax collection in Indonesia and contrasting it with Japan's well-established system. Unlike previous research that discusses Indonesia's carbon tax only in theoretical or fiscal terms, this study highlights the absence of implementing regulations particularly the lack of a Ministry of Finance Regulation as a core barrier to effective policy execution. By comparing Indonesia's current regulatory gap with Japan's decade-long experience and detailed legal framework, the research provides new insights into how Indonesia can transform its undeveloped carbon tax scheme into a comprehensive legal and institutional system. This approach bridges the gap between legal structure, economic feasibility, and environmental effectiveness, offering a concrete roadmap for overcoming Indonesia's regulatory inaction in carbon tax implementation

By analyzing this comparison, Indonesia is expected to find a more effective approach to reducing carbon emissions without hampering economic growth. The significance of this issue lies in the importance of implementing policies that not only address environmental issues but also consider economic and social aspects, so that the carbon tax policy is well-received by all levels of society.<sup>23</sup> Taxation is one of the most important instruments of fiscal policy used by the state to finance national development. In general terms, tax is a compulsory contribution paid by citizens to the state, regulated by law, without direct reciprocal benefits. Within the environmental context, the introduction of a carbon tax has emerged as a policy instrument to mitigate greenhouse gas (GHG) emissions resulting from industrial and energy-related activities. Scholars have emphasized that carbon taxation is not merely a fiscal measure but also a tool for behavioral change, encouraging industries and individuals to adopt more sustainable practices. Such findings underscore the role of carbon taxes in bridging environmental protection with economic governance. A carbon tax is defined as a fiscal mechanism that imposes a levy on activities producing carbon dioxide (CO<sub>2</sub>) emissions. In Indonesia, the legal foundation for its adoption is found in Law Number 7 of 2021 on the Harmonization of Tax Regulations. Previous research has shown that carbon taxes, when effectively designed, can

<sup>&</sup>lt;sup>23</sup> Saidi, Muhammad Djafar. Pembaruan Hukum Pajak. (Jakarta: RajaGrafindo Persada, 2007).

contribute to both climate change mitigation and increased fiscal revenues. However, studies also highlight persistent challenges, including regulatory clarity, institutional readiness, and socioeconomic impacts (OECD, 2022). This dual perspective suggests that while the policy is normatively desirable, its practical success depends on a strong legal and institutional framework adapted to national conditions.

The Indonesian government initially planned to impose a carbon tax of IDR 30 per kilogram of CO<sub>2</sub> equivalent in 2022, primarily targeting high-emission sectors such as coal-fired power plants. Nevertheless, its implementation has been delayed to 2025 due to regulatory and economic concerns. Empirical evidence suggests that premature or poorly regulated carbon tax schemes may trigger inflationary pressures and disproportionately burden low-income households (World Bank, 2021). This raises the urgent need for Indonesia to carefully design its carbon tax framework so that the policy balances environmental, economic, and social objectives. Comparative studies provide valuable insights in this context. Japan, for example, has successfully integrated carbon taxation into its environmental and fiscal policy through more detailed regulations, differentiated tax rates, and the development of a functioning carbon market. Unlike Indonesia, Japan's regulatory clarity and institutional maturity have allowed the tax to serve both as a revenue instrument and an environmental incentive. Research comparing the two systems highlights that Indonesia must address gaps in regulatory transparency, rate-setting mechanisms, and market readiness if it is to replicate similar success.

The purpose of this comparative law is to evaluate and propose a unified carbon tax policy in Indonesia that is more suited to domestic conditions and needs, taking into account the experiences of other countries, particularly Japan. This unification aims to create a more efficient and equitable carbon tax system, and can support Indonesia's efforts to meet its carbon emission reduction targets. This objective aligns with the background of the problem, which includes the need to design a more targeted and measurable carbon tax policy, so that it can be implemented effectively in the Indonesian context.<sup>24</sup> The approach used in this research is a micro-approach, namely a comparison of norms, which focuses on analyzing the legal norms governing carbon taxes in Indonesia and Japan. With this approach, it is hoped that differences

<sup>&</sup>lt;sup>24</sup> Pistone, Pasquale. The Impact of Community Law on Tax Treaties: Issues and Solution. (The Hague: Kluwer Law, 2002).

and similarities in carbon tax regulations in both countries will be identified, as well as the potential for adapting or adopting legal norms that are more relevant and applicable to Indonesia.

The novelty of this research lies in its comparative legal analysis of carbon taxation in Indonesia and Japan, which has not been extensively studied in prior Indonesian legal scholarship. While existing literature has discussed the economic and environmental impacts of carbon taxes, few studies have systematically examined the normative frameworks governing their implementation across different jurisdictions. By focusing on the comparison of legal norms, this research seeks to contribute to both academic discourse and policy reform discussions. In light of these considerations, the research problem can be identified as follows: How can Indonesia develop a coherent and effective carbon tax regime by learning from Japan's legal and institutional experiences, while also accommodating its own economic and social realities? Accordingly, the objective of this study is to evaluate and propose a unified legal framework for carbon taxation in Indonesia that is efficient, equitable, and responsive to domestic conditions, while aligning with global climate change commitments.

#### METHODS OF THE RESEARCH

This research employs a normative method with a comparative approach. The primary legal materials used involve a comparison between the Indonesian legal framework specifically, Law of the Republic of Indonesia Number 7 of 2021 on the Harmonization of Tax Regulations and Presidential Regulation Number 98 of 2021 on the Implementation of Carbon Economic Value for Achieving the Nationally Determined Contribution Target and Greenhouse Gas Emission Control and the Japanese legal framework, namely, Law Number 32 of 2020 on Promoting a Smooth Transition to a Decarbonized Growth-Oriented Economic Structure and Cabinet Regulation Number 316 of 2020 on the Transition to a Growth-Oriented Decarbonized Economic Structure. The comparative analysis focuses on the law in context using a micro approach, namely the comparison of legal norms. Japan's legal system adheres to the concept of a centralized unitary state, where governmental power is concentrated in the central government. Unlike federal systems that grant significant autonomy to regional entities, Japan practices centralized governance under a strong central administration led by a Prime Minister.

Japan's legal structure is particularly relevant for comparison, as its bicameral legislative system consisting of the House of Representatives (Shūgiin) and the House of Councillors (Sangiin) bears resemblance to Indonesia's own legislative structure. Japan was chosen as a comparator because it has a more mature carbon tax system and faces similar economic challenges to Indonesia, such as balancing industrial growth with emission reduction goals. Both countries share commitments under the Paris Agreement, making Japan's experience a relevant model for designing Indonesia's future carbon tax policy.

# **RESULTS AND DISCUSSION**

# A. Comparison of Legal Norms for Imposing Carbon Tax in Indonesia and Japan

Carbon tax is a global warming mitigation measure that places a price on greenhouse gas emissions, such as CO2, and imposes a financial burden on entities that emit greenhouse gases to reduce emissions. However, there is no uniform international standard for carbon tax, and the carbon prices charged by each country or region vary, resulting in different carbon costs at the time of production depending on the country of origin.<sup>25</sup> As a result, assuming free and unhindered trade, the problem of inequality (carbon leakage) arises, where the price competitiveness of products produced in regions with low carbon prices becomes higher especially for carbon-intensive products, leading to a situation where EU-based companies move carbon-intensive production abroad to countries with less stringent climate policies than the EU.<sup>26</sup> Japan and Indonesia share several similarities in terms of CO2 emissions and environmental policies. Both countries have identified the energy sector as the largest contributor to CO2 emissions, with a heavy reliance on fossil fuels for electricity generation and transportation.<sup>27</sup> Furthermore, both countries have submitted Intended Nationally Determined Contributions (INDCs) as part of their commitments under the Paris Agreement to reduce greenhouse gas emissions.<sup>28</sup> An upward trend in emissions since 1990 has been

<sup>&</sup>lt;sup>25</sup> Olivier Joseph Abban and Yao Hong-xing, "What Initiates Carbon Dioxide Emissions along the Belt and Road Initiative? An Insight from a Dynamic Heterogeneous Panel Data Analysis Based on Incarnated Carbon Panel," *Environmental Science and Pollution Research International* 28, no. 45 (2021): 64516–35, https://doi.org/10.1007/s11356-021-14779-5.

<sup>&</sup>lt;sup>26</sup> Ningkang Chen, Xiaofei Qin, and Shuai Zhong, "Economic and Carbon Emission Assessment of Compostable Plastics as a Substitute for Petrochemical Plastics: A Case Study in Yunnan Province," *Environment, Development and Sustainability*, 20 2024, https://doi.org/10.1007/s10668-024-05000-x.

<sup>&</sup>lt;sup>27</sup> Ding, "The Impacts of Carbon Pricing on the Electricity Market in Japan."

<sup>&</sup>lt;sup>28</sup> Taylor, Jason. (2018). e-Commerce Taxes Planning For The Online Retailer. USA: Cyberspace CPA, PLLC. 2018.

observed in both countries, reflecting economic growth and growing energy needs. However, there are many differences between Japan and Indonesia.<sup>29</sup> Overall, Japan's emissions are higher due to its advanced industry, while Indonesia's emissions are increasing more rapidly due to urbanization and population growth. In Japan, industrial sectors such as iron, steel, and chemicals are the main contributors, while in Indonesia, the electricity sector is the largest contributor, followed by transportation and industry.<sup>30</sup>

In policy and technology, Japan has advanced further in developing low-carbon technologies such as renewable energy, energy efficiency, and nuclear energy. In contrast, Indonesia still faces significant challenges in adopting clean technologies, despite having begun developing renewable energy sources such as solar and wind power. Emission reduction targets also differ: Japan aims for a 26% reduction by 2030 compared to 2013 levels, while Indonesia aims for a 29% reduction by itself, or 41% with international assistance, by 2030 compared to a scenario without intervention.<sup>31</sup> The scale of industrialization is also a differentiating factor, with Japan being a developed country with a large industrial sector that contributes to emissions, while Indonesia is a developing country with emissions largely coming from the energy sector and land clearing. Japan has implemented stringent mitigation policies oriented towards technological innovation, while Indonesia still faces significant challenges such as deforestation and land degradation, which contribute significantly to greenhouse gas emissions. Nevertheless, both countries face similar challenges in the energy transition, but Japan is better prepared technologically and policy-wise, while Indonesia requires international support to address these challenges.

Japan and Indonesia have significant differences in their CO2 emissions and environmental policies. Overall, Japan's emissions are much higher due to its advanced industrial sector and substantial energy consumption, while Indonesia has lower emissions levels but is experiencing a more rapid increase due to urbanization and population growth. The main contributor to emissions in Japan is the industrial sector, particularly iron, steel, and chemicals,

<sup>&</sup>lt;sup>29</sup> Hemangi Gokhale, "Japan's Carbon Tax Policy: Limitations and Policy Suggestions.," Current Research in Environmental Sustainability 3 (2021): 100082-, https://doi.org/10.1016/j.crsust.2021.100082.

<sup>&</sup>lt;sup>30</sup> Bie et al., "Role of Credit Subsidies and Financial Intermediation in China and Japan: Implications for Green Economic Growth."

<sup>31</sup> Ksenia Golovina, "Procuring, Crafting, and Sensing: Affect and Material Practices of Russian Women in Japan," Vestnik of Saint Petersburg *University*. History 63, no. 2 (2018): 488–505, https://doi.org/10.21638/11701/spbu02.2018.211.

while in Indonesia the electricity sector is the largest contributor, followed by transportation and industry. In terms of tax principle policy, Japan has implemented low-carbon technologies such as renewable energy, energy efficiency, and nuclear energy, while Indonesia still faces challenges in adopting clean technology even though it has started to develop solar and wind energy. <sup>32</sup>

Emission reduction targets also differ. Japan is targeting a 26% reduction by 2030 compared to 2013 levels, while Indonesia has set a target of 29% reduction independently or 41% with international assistance by 2030 compared to a scenario without intervention. Furthermore, Japan is focusing more on the industrial sector to reduce emissions through advanced technology, while Indonesia is working to transform its electricity sector while addressing deforestation issues. As a developed country, Japan is better prepared for the energy transition thanks to its mature infrastructure and policies, while Indonesia, as a developing country, requires international support to accelerate the adoption of clean energy and meet its emissions reduction targets.

The differences in legislation between Japan and Indonesia significantly influence the two countries' approaches to controlling carbon emissions. Japan has implemented a carbon tax policy through the Tax for Climate Change Mitigation (TCCM) since 2012. This tax is imposed on fossil fuels such as oil, natural gas, coal, and other oil products, with the aim of systematically reducing carbon emissions through fiscal instruments. In contrast, Indonesia has only just begun regulating a carbon tax through Law Number 7 of 2021 concerning the Harmonization of Tax Regulations.

The carbon tax in Indonesia is levied on fossil fuel emissions, with the primary goal of controlling greenhouse gas emissions and supporting the achievement of Nationally Determined Contribution (NDC) targets. However, the implementation of the carbon tax in Indonesia is still in its early stages, with Presidential Regulation Number 98 of 2021 concerning the Implementation of Carbon Economic Value. This Presidential Regulation aims to control greenhouse gas emissions and achieve national contribution targets, so its effectiveness in reducing carbon emissions cannot yet be fully measured, unlike Japan, which has implemented

<sup>&</sup>lt;sup>32</sup> Williams, David W. Davies: Principles of Tax Law (5th.Ed.). (London: Sweet and Maxwell, 2004).

this policy for over a decade. While the imposition of the tax has not yet been regulated, a detailed comparison of Indonesia and Japan can be seen in Table 1.

Table 1. Comparison of Indonesia Carbon Tax Imposition with Japan

| Classification                    | State of Japan (Law<br>Number 32 of 2020)   | Republic of Indonesia Law<br>Number 7 of 2021<br>Concerning Harmonization<br>of Tax Regulations  |
|-----------------------------------|---|--|
| Authority                         | Article 6 Paragraph 4 The Minister of Economy, Trade and Industry must consult with the Minister of Finance, the Minister of Environment, and the heads of administrative institutions.   | Article 13 Paragraph 10 Minister of Finance.   |
| Taxpayer                          | Article 5 Business Actors (in<br>this case Individuals or<br>Legal Entities)  | Article 13 Paragraph 5 individuals or bodies that purchase goods containing carbon and/or carry out activities that produce carbon emissions.  |
| Taxable Goods                     | Article 11: Imported fossil fuels such as liquefied natural gas, natural gas, and coal. The tax rate is gradually increased for oil (crude oil and petroleum products), gas (LPG and LNG), and coal to equal the tax of 289 yen per ton of CO2 emissions.   | Article 13 Paragraph 8 carbon dioxide equivalent (COze).   |
| Fossil Fuel Surcharge Unit Price. | Article 12 The unit price of the additional cost of fossil fuels for each budget year is in a range not exceeding the amount stated in point 1 (if the amount stated in the same item exceeds the amount stated in point 2, then it must not exceed the amount stated in the same item). (in an amount not exceeding the amount stated in point 1) will be determined by Cabinet Order, taking into account | Article 13 Paragraph 9 In the event that the carbon price in the carbon market as referred to in paragraph (8) is lower than IDR.30.00 (thirty rupiah) per kilogram of carbon dioxide equivalent (COze) or an equivalent unit, the carbon tax rate is set at a minimum of IDR.30.00 (thirty rupiah) per kilogram of carbon dioxide equivalent (COze), or an equivalent unit. |

the need to reduce the medium and long term energy burden and objectives of the provisions of Article 8, Paragraph 1.

Source: Processed by the author

Differences between carbon tax regulations in Japan (Law Number 32 of 2020) and Indonesia (Law of the Republic of Indonesia Number 7 of 2021 concerning the Harmonization of Tax Regulations) can be seen in various aspects, including decision-making authority, taxpayers, taxable goods, and provisions regarding the unit price of fossil fuel surcharges. The comparison presented in Table 1 highlights both similarities and differences in the legal frameworks governing carbon tax imposition in Japan and Indonesia. From an authority perspective, Japan applies a more collaborative institutional approach, where the Minister of Economy, Trade and Industry must consult with the Minister of Finance, the Minister of Environment, and other relevant administrative institutions before determining the carbon tax policy. In contrast, Indonesia centralizes decision-making power under the authority of the Minister of Finance, as stipulated in Article 13 of the Harmonization of Tax Regulations.

This difference reflects Japan's stronger emphasis on inter-ministerial coordination and integrated governance, while Indonesia's approach may risk regulatory rigidity due to its reliance on a single authority. In terms of taxpayers, both countries impose obligations on business actors and individuals. However, Japan explicitly defines business actors, including individuals and legal entities engaged in fossil fuel use, whereas Indonesia uses broader terminology by targeting any individuals or bodies whose activities generate carbon emissions. This distinction demonstrates that Indonesia's regulatory scope is more general, but also potentially ambiguous, which could lead to challenges in enforcement and compliance. The broader definition adopted by Indonesia, which refers to carbon dioxide equivalent (CO<sub>2</sub>e) rather than specific fossil fuel types as in Japan, provides both advantages and drawbacks. On one hand, it offers greater flexibility, allowing the carbon tax to adapt to a wide range of emission sources and future policy developments without requiring constant regulatory amendments. On the other hand, this lack of specificity can create legal and administrative uncertainty, as businesses may struggle to determine which activities or goods fall under the

taxable category. In contrast, Japan's clearly defined classification of taxable fuels ensures regulatory clarity and compliance certainty, though it may be less adaptable to emerging emission sources or new carbon-intensive industries.

In comparing carbon tax rate structures, Japan applies a progressive and flexible system in which fossil fuel surcharges are gradually increased to support long-term energy transition and emission reduction goals. This approach provides clear price signals to industries, ensuring both regulatory certainty and predictable state revenues. In contrast, Indonesia's carbon tax is set at a fixed minimum rate of IDR.30 per kilogram of CO<sub>2</sub>e (approximately JPY 289 per ton CO<sub>2</sub>e), without a mechanism for periodic adjustment or linkage to carbon market fluctuations.

While the nominal value is relatively similar, the effectiveness differs significantly: Japan's progressive system encourages continued investment in low-carbon technologies, whereas Indonesia's rigid rate may offer limited incentive for emission reduction. Moreover, Japan's flexibility is supported by a detailed legal framework, while Indonesia's lack of implementing regulations creates legal and administrative uncertainty, leaving taxpayers unclear about the scope, calculation, and adjustment of the carbon tax. Consequently, Indonesia's challenge lies in transforming this uncertainty into structured flexibility through clear implementing rules and a phased tariff escalation plan.

Overall, the comparative analysis shows that Japan's carbon tax regime is characterized by regulatory clarity, detailed classification, and institutional coordination, which together ensure both legal certainty and environmental effectiveness. Indonesia, on the other hand, still faces challenges related to legal clarity, regulatory detail, and flexibility in policy design. These findings underscore the importance of developing a more comprehensive and adaptive legal framework in Indonesia that not only provides certainty for taxpayers but also aligns with the country's long-term commitment to climate change mitigation and sustainable development.

Regarding decision-making authority, Japan stipulates in Article 6 Paragraph 4 that the Minister of Economy, Trade, and Industry must consult with several relevant parties, namely the Minister of Finance, the Minister of Environment, and the heads of other administrative institutions. This approach reflects a more collaborative process, where carbon tax policy decisions are not solely dependent on a single party but involve various relevant ministries and

institutions with expertise in economics, the environment, and state administration. This is crucial to ensure that policies taken into account various aspects, particularly those related to economic and environmental impacts. In contrast, in Indonesia, according to Article 13 Paragraph 10 of Law Number 7 of 2021, decision-making authority rests entirely with the Minister of Finance. Thus, carbon tax policy in Indonesia tends to be more centralized in this single authority, with no explicit obligation to consult with other ministries in carbon tax decision-making.

Taxpayers are also a distinguishing factor between the two countries. In Japan, Article 5 of Law Number 32 of 2020 stipulates that taxpayers are business actors, both individuals and legal entities, involved in activities that produce carbon emissions. This means that carbon tax obligations apply to entities that directly produce or transact with goods that have the potential to produce carbon emissions, such as energy companies or fossil fuel processing industries. Meanwhile, in Indonesia, according to Article 13 Paragraph 5, taxpayers are individuals or entities that purchase carbon-containing goods and/or engage in activities that produce carbon emissions. This indicates that the carbon tax in Indonesia is not only imposed on business actors but can also be imposed on individuals or legal entities involved in the consumption of carbonproducing goods, such as consumers of fossil fuels or other goods that produce carbon dioxide emissions. The goods subject to carbon taxes in the two countries also differ significantly. Japan, in Article 11, includes imported fossil fuels, such as liquefied natural gas (LNG), natural gas, and coal, as goods subject to carbon taxes. Japan has implemented a policy of gradually increasing the carbon tax, with the goal of equalizing the carbon tax to 289 yen per ton of CO2 emissions.

Japan's emphasis on imported fossil fuels, such as crude oil and petroleum products, reflects the country's dependence on these energy sources. Meanwhile, in Indonesia, Article 13, Paragraph 8, states that the taxable goods are carbon dioxide equivalents (CO<sub>2</sub>e), which include carbon emissions from all activities that produce greenhouse gases. The use of the term "carbon dioxide equivalent" in Indonesia indicates that the carbon tax can be imposed on a wider range of emissions, not just fossil fuels, but also other sectors that contribute to increased carbon emissions. The unit price of the fossil fuel surcharge is also regulated differently in the two

countries. In Japan, Article 12 stipulates that the unit price of the fossil fuel surcharge for each fiscal year is set within a specified range and must not exceed the higher figure, provided that the price can be adjusted as needed to reduce the medium- and long-term energy burden.

The Japanese government uses a flexible pricing system, considering various factors, including energy price stability and long-term emission reduction goals. In Indonesia, Article 13, Paragraph 9, stipulates that if the carbon price in the carbon market is lower than IDR 30.00 per kilogram of carbon dioxide equivalent (CO<sub>2</sub>e), the carbon tax rate will be set at a minimum of IDR.30.00 per kilogram of CO<sub>2</sub>e. This demonstrates that Indonesia has a more stringent minimum price provision for carbon taxes, which can provide clarity for businesses and the public regarding the applicable carbon tax rate, despite fluctuating carbon prices in the carbon market. The primary goal of both countries is to reduce carbon emissions through the implementation of a carbon tax. Japan tends to use a more coordinated approach across various ministries, while Indonesia relies on the authority of the Minister of Finance to determine this policy. Furthermore, Japan focuses more on taxes on imported fossil fuels with more flexible tariff arrangements, while Indonesia regulates carbon taxes more specifically on carbon dioxide equivalents and sets a clear minimum tax rate. These differences in regulation indicate that each country has a tailored approach to its economic, energy, and environmental needs.

Broadly speaking, there are two types of carbon tax government pricing and private sector pricing. Government pricing can be further divided into explicit and implicit pricing. Explicit carbon tax refers to the practice of pricing greenhouse gases emitted by companies and other entities and imposing a financial burden (a price per ton of carbon dioxide equivalent) on emitters in proportion to the amount of carbon they emit. This is known as a "carbon tax".

Regardless of the name of the system or the mechanism used, it is important to note whether the system explicitly sets a price on carbon emissions. Implicit carbon tax, on the other hand, refers to taxes, regulations, subsidies, and other measures that have the effect of reducing greenhouse gas emissions, but in a form where they do not provide an explicit carbon price (price per ton of carbon dioxide equivalent). This cost burden is referred to as implicit carbon tax. It is often applied for socio-economic policy purposes other than greenhouse gas emission reduction.

Under the Carbon Border Adjustment Mechanism (CBAM) Regulation, enacted on May 10, 2023, the CBAM will become fully operational in 2026. From that definitive period, importers must purchase and submit CBAM certificates proportional to the embedded emissions contained in imported products. This allows importers to deduct the carbon price paid in the country of production for the product in question from the emissions contained in the imported product. This carbon price is defined in the CBAM Regulation. Purchased emission allowances exceed those allocated for free under the Carbon Tax system. Below, we will explain each of Japan's carbon tax schemes that may fall into these categories. (Note, however, that the definition of "carbon price" in the CBAM is limited, and it appears that some other carbon credits should also be included in the "carbon price." This will be discussed later.) Traditionally, in Japan, energy-related taxes have been imposed at the national and local levels for policy purposes other than combating global warming. Examples include the gasoline tax, the petroleum and coal tax (part of the main tax rate), the liquefied natural gas tax, the aviation fuel tax, the diesel oil shipping tax, the energy resource development tax, and other energyrelated taxes. These taxes, plus the "climate change mitigation tax" (see below), levied on top of the petroleum and coal taxes, generated a total of approximately 4,342 billion yen in tax revenue in fiscal 2018. A Japanese government report views these as "explicit carbon tax" in the sense that they are intended to offset the explicit cost effects associated with fossil fuels. On the other hand, in other contexts, these energy taxes, with the exception of the "climate change mitigation tax," could be viewed as "implicit carbon tax" in the sense that the tax rate is not initially calculated based on carbon emissions themselves. Therefore, it should be noted that the classification of "explicit" or "implicit" is not a single one and varies depending on the context in which it is used, and no uniform definition has been established.<sup>33</sup>

# B. Unification of the Law on Carbon Tax Imposition between Indonesia and Japan

An alternative solution in comparing the carbon tax laws of Indonesia and Japan is one solution adopted by Indonesia to reduce greenhouse gas (GHG) emissions and address climate change. In Indonesia and Japan, carbon tax policies have similar objectives, but differ in their legal approaches and implementation. The following narrative discusses the comparison of

<sup>33</sup> Pechman, Joseph A. (1987). Federal Tax Policy (Fifth Edition). Washington DC: The Brooring Institution., n.d.

carbon taxation in the two countries and provides alternative solutions. Details can be seen in Table 2.

Table 2. Comparison of Carbon Prices in Indonesia and Japan

| Taxable carbon price     | Japan<br>(Cabinet Order Number<br>316 of 2020) | Republic of Indonesia (No implementing regulations yet) Article 13 Paragraph 9 IDR. 30.00 (thirty rupiah) per kilogram of carbon |
|--------------------------|--|--|
| Crude Oil dan Oil Produk | 2800 JPY/Kl                                    | -  |
| LPG dan Natural Gas      | 1860 JPY/t                                     | -  |
| Coal                     | 1370 JPT/t                                     | -  |
| Gasolin                  | 53,800JPY/kl                                   | -  |
| Diesel                   | 32,100 JPY/kl                                  | -  |
| Jet Fuel                 | 26,000 JPY/kl                                  | -  |
| Naptha                   | 375 JPY/kl                                     | -  |
| Kerosene                 | 9,800 JPY/kl                                   | -  |
| Heavy Fuel Oil           | 375 JPY/kl                                     | -  |
| Electric                 | 375 JPY/kl                                     | -  |
| Co2 Emision              | 375 JPY/kl                                     | -  |

Source: Processed by the author

The first step required is to issue a Ministerial Regulation establishing specific rules regarding the carbon tax. In Japan, the carbon tax is enforced through robust and detailed regulations, including the establishment of varying rates for different fuel types and carbon emissions. In Indonesia, the government needs to establish a Ministry of Finance Regulation to detail how the carbon tax will be implemented, including applicable rates, emission calculation procedures, and reporting mechanisms for companies subject to the tax. The Ministry of Finance Regulation should also include incentives or subsidies for affected sectors to better facilitate the transition to more environmentally friendly energy sources. The comparison in Table 2 demonstrates a striking difference between Japan and Indonesia regarding the determination of carbon prices. Japan, through Cabinet Order Number 316 of 2020, has established a detailed and differentiated pricing system based on specific fossil fuels and emission sources. The variation in tax rates - for instance, JPY 53,800 per kiloliter for gasoline, JPY 32,100 per kiloliter for diesel, and JPY 375 per kiloliter for kerosene and heavy fuel oil – reflects a policy design that accounts for both emission intensity and energy consumption

patterns. This approach creates a clear incentive structure that encourages industries and consumers to shift away from high-carbon fuels towards more sustainable energy sources.

In contrast, Indonesia has not yet issued specific implementing regulations regarding carbon prices. The only available provision, Article 13 paragraph 9 of the Harmonization of Tax Regulations, sets a minimum carbon tax of IDR 30 per kilogram of CO<sub>2</sub>e, regardless of the type of fuel or sector involved. While this flat-rate scheme simplifies administration, it does not capture the varying levels of carbon intensity across different fossil fuels, potentially limiting its effectiveness in steering energy transition. Moreover, the absence of detailed sectoral regulations creates legal uncertainty for businesses and may reduce public trust in the policy's fairness and effectiveness. Overall, Japan's structured and tiered carbon tax mechanism demonstrates a more mature regulatory framework that integrates environmental goals with fiscal instruments. Indonesia, on the other hand, still needs to develop comprehensive implementing regulations that differentiate tax rates according to emission intensity and sectoral characteristics. Without such detail, Indonesia risks having a carbon tax policy that is too general and less effective in achieving emission reduction targets.

The novelty of this study lies in identifying this regulatory gap and analyzing how Japan's differentiated carbon tax system can inform Indonesia's future policy design. Unlike existing literature that often focuses only on the economic or environmental aspects of carbon taxation, this research emphasizes the importance of a comparative legal approach to highlight differences in regulatory detail, institutional design, and implementation mechanisms. By drawing lessons from Japan, Indonesia can be encouraged to move beyond a flat-rate system and adopt a more adaptive framework that differentiates tax rates based on emission intensity, thereby ensuring both environmental effectiveness and legal certainty. This analysis underscores the urgency of developing comprehensive implementing regulations in Indonesia as a prerequisite for a successful and equitable carbon tax regime.

## **CONCLUSION**

The implementation of a carbon tax in Indonesia requires strategic measures to ensure its effectiveness in reducing carbon emissions while also considering its impact on the economy and industrial sectors. Three key steps need to be taken. First, issuing a Ministry of Finance

Regulation that provides detailed provisions on the carbon tax mechanism, including clear emission calculation procedures and tariff structures. Second, adjusting the carbon tax rate to reflect fair pricing based on global carbon market prices, so that the rate can incentivize significant emission reductions without placing an excessive burden on the economy. Third, assessing the implications of adopting Japan's carbon tax system, which may positively accelerate the transition to renewable energy but also demands careful attention to potential social and economic impacts especially on sectors dependent on fossil fuels. A well-designed carbon tax policy can serve as an effective tool to achieve emission reduction targets. However, it is crucial for the government to ensure that the transition is carried out carefully, with adequate support for affected sectors and incentives for companies investing in low-carbon technologies.

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