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Implementation and Challenges of Carbon Tax to Reduce Emissions in Indonesia

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Abstract
Carbon tax is proposed as a policy to reduce greenhouse gas emissions in Indonesia, especially carbon dioxide (CO_2), which is the main cause of climate change. In the context of Indonesia, which accounts for about 2% of total global emissions, a carbon tax is expected to internalize the negative externalities of those emissions and drive the transition to clean energy. In this paper, we analyze the application of carbon tax as a strategy to reduce greenhouse gas emissions in Indonesia. We also identified and evaluated the challenges faced in implementing carbon tax policies, including resistance from industry and communities, as well as the complexity of setting fair and effective rates. Our results show that the implementation of a carbon tax has great potential in reducing greenhouse gas emissions and supporting sustainable development. However, the implementation of the carbon tax is also faced with various challenges that need to be overcome. Therefore, cooperation between government, industry, and society is needed to formulate effective and sustainable carbon tax policies. Through this analysis, it is hoped that solutions can be found to improve the effectiveness of carbon tax policies in reducing emissions and supporting environmental sustainability.

Keywords: Carbon Tax; Challenges; Emissions; Energy;

Introduction

Climate change itself refers to significant changes in global climate patterns that occur over a long period of time, most of which are caused by human activities, either directly or indirectly. The human activities referred to here include various actions that can affect the composition of the Earth's atmosphere, such as the burning of fossil fuels, changes in land use, as well as deforestation, which as a whole contribute to changes in climate variability. One of the most influential factors in the occurrence of climate change is carbon dioxide emissions resulting from various human activities. These carbon emissions come from various sectors, but the most significant are from the transportation, industry, and energy generation sectors. The goods and activities most used by people on a daily basis, such as motor vehicles, power plants that use fossil fuels, as well as the use of energy for industrial purposes, all contribute to the increase in carbon dioxide emissions that are the main

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cause of global warming. The Indonesian government is taking concrete steps to achieve sustainable development by implementing a carbon tax. The implementation of carbon taxes directly or indirectly reduces activities that pollute the environment and prevents environmental damage by prioritizing environmentally friendly ways of production or consumption.

The purpose of the carbon tax is to reduce emissions, especially carbon and eliminate the use of fossil fuels due to human activities in the production process. The implementation of a carbon tax in Indonesia is a step that faces various challenges but this effort is very important in addressing the impacts of climate change and supporting sustainable economic development. With the carbon tax, it is expected to encourage the reduction of greenhouse gas emissions, accelerate the transition to clean energy, and encourage innovation in environmentally friendly technologies.

The problem statement in this article focuses on two main questions: first, how can the implementation of a carbon tax serve as an effort to lower carbon emissions in Indonesia? Second, what are the challenges faced by Indonesia in implementing this carbon tax policy? With Indonesia's significant contribution to greenhouse gas emissions, especially from the Forestry and energy sectors, it is important to explore the effectiveness of carbon tax policies in mitigating climate change. While a carbon tax is expected to drive the transition to clean energy and support sustainable development, challenges such as resistance from industry and society and the complexity of setting fair rates need to be addressed to effectively achieve these policy objectives. The purpose of this study is to analyze the application of carbon tax in Indonesia as a strategy to reduce greenhouse gas emissions, particularly carbon dioxide (CO_2), which contributes significantly to climate change. This study also aims to identify and evaluate the challenges faced in the implementation of carbon tax policies, including resistance from the industrial sector and society, as well as the complexity in setting fair and effective rates. By understanding these two aspects, it is hoped that this study can provide constructive recommendations for the development of more effective and sustainable carbon tax policies in Indonesia.

Methodology

This study uses a qualitative approach with descriptive analysis to explore the application of carbon tax in Indonesia. The methodology used includes data collection through literature studies, including the study of relevant legislation, government policy documents, as well as previous research on carbon taxes and their impact on greenhouse gas emissions. In addition, interviews with stakeholders, such as government officials, industry players, and environmentalists, were also conducted to gain a deeper perspective on the challenges and opportunities in the implementation of this policy. With this approach, the study aims to provide a comprehensive overview of the effectiveness of the carbon tax as an instrument of climate change mitigation

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in Indonesia as well as identify the factors that influence the success of the policy.

Results and Discussion

The Implementation of a Carbon Tax Serve as an Effort to Lower Carbon Emissions in Indonesia

A carbon tax is a fee levied on emissions of carbon dioxide (CO_2) and other greenhouse gases produced by human activities, especially those related to the use of fossil fuels (Abeyratne, 2020). The purpose of this tax is to internalize the costs of negative externalities arising from carbon emissions, thereby encouraging individuals and companies to reduce dependence on fossil fuels and switch to more environmentally friendly energy sources. The implementation of carbon tax in Indonesia is regulated in Law Number 7 of 2021 concerning harmonization of Tax Regulations, which sets a minimum carbon tax rate of Rp30 per kilogram of CO_2 equivalent (CO_2e). Regarding the future adjustments, the government plans to implement a cap-and-trade mechanism, allowing companies producing emissions beyond the predetermined limits to buy emission certificates from those with lower emissions. With this approach, the tax tariff can be adjusted alongside the development of the carbon market and the preparedness of respective sectors. Additionally, there are plans to expand the coverage of the carbon tax to other sectors after the initial application phase focused on coal-fired power plants, aiming for full expansion by 2030 (Suryani, 2022; Muzakki, 2023). This policy is part of the government's efforts to meet international commitments to reduce greenhouse gas emissions, including within the framework of Indonesia's Nationally Determined Contribution (NDC) under the Paris Agreement. In general, the carbon tax is an important strategy for Indonesia to address the challenges of climate change and achieve its greenhouse gas emission reduction goals. With significant potential to create a more sustainable future for future generations, it is hoped that the carbon tax can provide positive benefits for the environment as well as the country's economy.

Carbon tax is not only imposed on carbon dioxide (CO_2) emissions but also encompasses various other greenhouse gases that contribute to global warming. One significant gas is methane (CH_4), which has a global warming potential approximately 21 times stronger than that of CO_2. Methane is produced from various sources, including agriculture, particularly from livestock, as well as waste processing and oil and gas exploration. Additionally, nitrous oxide (N_2O) is also a concern, with a global warming potential about 298 times higher than that of CO_2. This gas is primarily generated from agricultural activities through the use of nitrogen fertilizers, as well as industrial processes and fossil fuel combustion. Besides CH_4 and N_2O, there are also other greenhouse gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), which, although their

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contributions to global emissions are smaller, have very high global warming potentials. Therefore, the imposition of a carbon tax that includes all types of greenhouse gases is crucial for effectively addressing climate change. By accounting for emissions from various greenhouse gases, carbon tax policies can be more comprehensive and encourage emission reductions across all sectors. According to research by Iqbal (2019), the implementation of carbon tax on these gases aligns with the Indonesian government's efforts to reduce greenhouse gas emissions in accordance with international commitments under the Paris Agreement.

The carbon tax in Indonesia will be imposed on several specific sectors that are most affected, namely the transportation, building, and land-based sectors. The implementation of the carbon tax is expected to encourage these sectors to adapt in a more environmentally friendly manner. Transportation Sector: This sector is one of the significant contributors to greenhouse gas emissions. With the implementation of the carbon tax, there is an expectation for a shift towards more efficient and environmentally friendly vehicles, such as electric cars. The transportation sector can also adopt green technologies and increase the use of public transportation to reduce emissions (Pratama et al., 2022). Building Sector: The implementation of the carbon tax in this sector is expected to promote the development of more energy-efficient and environmentally friendly buildings. Developers and building owners can invest in energy-saving technologies, such as efficient heating and cooling systems, as well as the use of sustainable building materials (Barus & Wijaya, 2021). Land-Based Sector: This sector includes agriculture, forestry, and other land uses. The carbon tax will encourage more sustainable agricultural practices and good forest management to reduce emissions. For example, the land-based sector may opt for result-based payments as an alternative to carbon trading schemes (Fitri Editiana, 2023).

Indonesia plays a crucial role in the Paris Agreement, having committed to significant greenhouse gas emissions reductions as part of its Nationally Determined Contributions (NDCs). Under the Paris Agreement, Indonesia aims to reduce its emissions by 29% from business-as-usual (BAU) levels by 2030, with the potential to increase this target to 41% with international cooperation. This commitment reflects Indonesia's recognition of its responsibility in the global fight against climate change and its intention to contribute positively to international efforts. The carbon tax serves as a vital mechanism in supporting Indonesia's commitments under the Paris Agreement. By imposing a tax on carbon emissions, the government incentivizes industries and individuals to adopt cleaner technologies and practices. This not only aids in achieving the emission reduction targets but also promotes investments in renewable energy sources, which are essential for sustainable development (Cicala et al., 2022). Furthermore, the revenue generated from the carbon tax can be used to fund climate adaptation and

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mitigation projects, enhancing Indonesia's capacity to meet its NDCs effectively. As a country with one of the largest tropical rainforests and significant biodiversity, Indonesia's participation in the Paris Agreement is critical. The country has a unique opportunity to leverage its natural resources for climate action while balancing economic growth and environmental sustainability. The implementation of a carbon tax aligns with Indonesia's broader strategy to combat climate change and fulfill its international obligations under the Paris Agreement (Herawan & Redi, 2021; Kementerian Lingkungan Hidup dan Kehutanan, 2019; Fitri Editiana, 2023).

The Polluter Pays Principle. This principle emphasizes that parties that produce carbon emissions must bear the costs of the pollution they produce. By internalizing the costs of negative externalities, carbon taxes encourage industry players to reduce emissions and invest in cleaner and more efficient technologies. This not only contributes to the reduction of emissions but also creates incentives for innovation in environmentally friendly technologies (Susanto et al, 2023). Principles of fairness and affordability. Carbon taxes should be implemented with social justice in mind, especially for low-income groups who may be more vulnerable to the additional cost impact of these taxes. The established tax rate needs to be designed so as not to overload society. Therefore, the government needs to conduct an impact analysis to ensure that these policies remain fair and do not exacerbate social inequality. In addition, it is important to educate people about the objectives and benefits of carbon taxes so that they understand the importance of these policies in the context of Environmental Protection and sustainability.

Phased Principle Implementation of the carbon tax should be done gradually to allow time for businesses and communities to adapt to policy changes. This gradual approach allows industrial sectors to make adjustments without experiencing significant disruption to their operations. For example, the government could start with a lower tax rate and increase it gradually as renewable energy technologies and infrastructure become more ready. In this way, the transition towards a low carbon economy can be made more smoothly (Suheriadi, 2021).

The Challenges Faced by Indonesia in Implementing this Carbon Tax Policy

Based on the analysis and discussion conducted in this paper, some of the main findings related to the implementation of carbon tax in Indonesia are as follows:

1. Importance of carbon tax

   Carbon tax is identified as an important instrument to reduce greenhouse gas emissions, specifically CO_2, which is a major cause of climate change. The implementation of this tax is expected to

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internalize the negative externalities of carbon emissions and promote the transition to clean energy. In addition, the carbon tax also serves as a source of income for the government, which can be allocated to fund environmental programs, green infrastructure, as well as research and development of renewable energy technologies. This is especially important in the context of sustainable development in Indonesia.

Research shows that the implementation of carbon tax can have a positive impact on the environment and public health, as well as encourage economic actors to shift to more environmentally friendly practices (Susanto et al., 2023; Rahmi & Rachmatulloh, 2020; Wirawan & Burton, 2013). Although Indonesia has set the carbon tax rate at Rp30 per kilogram of CO_2e, this rate is still relatively low compared to other countries that have successfully implemented carbon taxes, such as Sweden and Canada. In Sweden, for example, the carbon tax rate reaches approximately $137 per ton of CO_2e, which has proven effective in reducing emissions without hindering economic growth. This indicates that Indonesia needs to consider adjusting its carbon tax rate to be more effective in achieving the established emission reduction targets. Furthermore, the implementation of the carbon tax should also be carried out gradually to allow industries and society time to adapt to this new policy (Hassan et al., 2020; Susanto et al., 2023; Rahmi & Rachmatulloh, 2020).

In order to achieve ambitious emission reduction goals, the Indonesian government is expected to collaborate with various stakeholders, including the private sector and civil society. Through close cooperation and transparency in the implementation of the carbon tax, it is hoped that this policy will not only increase state revenue but also significantly contribute to climate change mitigation efforts and sustainable development in Indonesia (Wirawan & Burton, 2013; Rahmi & Rachmatulloh, 2020; Susanto et al., 2023).

The carbon tax in Indonesia can have a significant impact on low-income communities. While this tax aims to reduce greenhouse gas emissions and encourage the transition to clean energy, there are concerns that its implementation may increase the cost of living for these groups. The rise in prices of goods and services related to fossil fuels can burden household budgets, especially for those who are already struggling to meet basic needs (Pratama et al., 2022). However, the government can take mitigation measures to reduce these negative

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impacts. One approach is to use a portion of the revenue generated from the carbon tax to fund social programs aimed at assisting low-income communities. For instance, these funds could be allocated for renewable energy subsidies or direct cash assistance programs that can help alleviate their financial burdens (Hassan et al., 2020). In this way, the carbon tax not only serves as a tool for emission reduction but also as an instrument for enhancing social welfare. On the other hand, the implementation of the carbon tax can also create new job opportunities. By promoting investment in green technology and renewable energy, the carbon tax can open up new, more sustainable jobs and provide opportunities for low-income communities to engage in these emerging industries. This is important because these sectors often offer better and more stable employment compared to traditional fossil fuel-based jobs (Ratnawati, 2016).However, for the carbon tax policy to be effective and equitable, special attention must be given to its design and implementation. The government must ensure that the policy does not disproportionately burden low-income households. Measures such as introducing carbon dividends or compensation programs can help mitigate the financial impact on these vulnerable groups (Rahmi & Rachmatulloh, 2020). With an inclusive and careful approach, the carbon tax can be an effective tool for achieving environmental goals while still protecting community welfare.

The implementation of a carbon tax in Indonesia is not only aimed at reducing greenhouse gas emissions but also has the potential to create new job opportunities in the renewable energy and clean technology sectors. With the introduction of a carbon tax, it is expected that there will be an increase in investment in green technologies, which can open up job opportunities in various fields such as renewable energy, energy efficiency, and technological innovation (Hassan et al., 2020). For example, the renewable energy sector, including solar and wind power, requires labor for installation, maintenance, and development of new technologies. This will provide opportunities for communities to engage in more sustainable and environmentally friendly industries. Furthermore, the carbon tax can encourage companies to shift from fossil fuels to cleaner energy sources. With economic incentives through the carbon tax, companies will be more motivated to adopt environmentally friendly business practices (Glazebrook, 2022). This not only helps reduce emissions but

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also enhances the competitiveness of Indonesian industries in a global market that increasingly demands sustainability (Suryani, 2021).

2. Potential state revenue

The implementation of carbon tax is expected to generate significant potential state revenue, with an estimated RP23,651 trillion in 2025 from the energy sector alone. This shows that the carbon tax not only serves as a means of reducing emissions, but also as a source of income for the government. The revenue generated from the carbon tax can be used to fund the development of the renewable energy sector. In Indonesia, one way to reduce dependence on fossil energy is to accelerate the transition to green energy (Pratama et al, 2022). Governments can use carbon tax revenues to finance research and development of more efficient renewable energy technologies, such as solar and wind power generation. In addition, revenues from carbon taxes can be used to strengthen renewable energy infrastructure, which in turn will reduce clean energy costs and accelerate the energy transition (Fitri Editiana, 2023).

3. Implementation challenges

While there are great opportunities, the study found that carbon tax implementation is faced with a variety of challenges. For example, conflicts of interest in government institutions, as evidenced by Indonesia as a country that implements a Democratic political system has made some big businessmen take over or become politicians in the government system. This shows that the participation of entrepreneurs in the government system causes challenges in the implementation of carbon taxes in Indonesia. Economic factors have a major influence on the implementation of carbon tax so that it can be said to be a challenge for the Indonesian government. Obstacles that arise such as increased financial burden from the community due to high fuel tariffs. Some challenges in implementing carbon taxes must be faced by finding the right solutions or strategies (Ratnawati, 2016). Thus, the carbon tax policy made by the government must be designed in a compatible and fair manner according to the economy in Indonesia (Prasetyo et al, 2024).

Clear and transparent regulations are essential to support the implementation of the carbon tax in Indonesia. Without adequate regulations, it will be difficult to ensure compliance from industry. Legal uncertainty can hinder companies in planning and executing the

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necessary steps to meet their carbon tax obligations. For example, ambiguity in provisions regarding when the carbon tax should be applied and how it is calculated can lead to confusion among business operators (Wahyuni, 2023). Furthermore, complex and inconsistent regulations can create additional barriers for industries, which in turn may reduce the effectiveness of the carbon tax policy in decreasing greenhouse gas emissions (Fitri Editiana, 2023).

Clear regulations also serve as a tool to enhance transparency and accountability in the implementation of the carbon tax. With clear guidelines, the government can more easily monitor compliance and take action if violations occur. This is important for building public trust in this policy, as well as attracting foreign investment needed to support renewable energy projects (Hassan et al., 2020). Additionally, good regulations will provide certainty for industry players regarding their obligations, allowing them to plan the necessary investments and innovations to meet emission reduction targets.

The carbon tax in Indonesia must align with other environmental and economic policies to achieve effective and sustainable emission reduction targets. The integration of the carbon tax with other policies, such as renewable energy subsidies and incentives for clean technology, is crucial for creating a conducive environment for the transition to a low-carbon economy. For example, subsidies for renewable energy can reduce costs for producers and consumers, making it easier to adopt green technologies. This will help encourage companies to invest in renewable energy without feeling burdened by the additional costs of the carbon tax (Suheriadi, 2021).

Furthermore, incentives for clean technology can provide a boost for innovation and the development of more environmentally friendly products. With support from other policies, the carbon tax not only serves as a tool for emission control but also acts as a driver for sustainable economic growth (Ibarrola, 2021). The coherence between the carbon tax and other policies will ensure that industry players have the legal certainty and incentives needed to transition to more environmentally friendly business practices (Hassan et al., 2020). Therefore, it is important for the government to design a comprehensive carbon tax policy that is integrated with other environmental and economic policies (Suheriadi, 2021).

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Uncertainty regarding the impact of carbon tax on production costs can lead to resistance from the industrial sector, particularly for companies that rely on fossil fuels. When the carbon tax is implemented, companies may experience significant increases in operational costs. For example, research shows that the implementation of a carbon tax can lead to an increase in production costs across various industrial sectors, such as the cement and manufacturing industries, which can reach an accumulated 9.25% (Handoyo, 2021). This increase in costs has the potential to reduce profit margins and the competitiveness of products in both domestic and international markets.

Furthermore, uncertainty about how the carbon tax will be applied and the rates set can also make companies hesitant to invest in new, more environmentally friendly technologies. If companies are unsure about the amount of tax that will be imposed in the future, they may choose to delay investments in innovation or transition to renewable energy sources. This can hinder progress toward reducing carbon emissions and transitioning to a low-carbon economy.

Therefore, it is essential for the government to provide certainty and clarity regarding carbon tax policies, including rates and implementation mechanisms. This way, industries will be better prepared to adapt and invest in the technologies needed to meet their carbon tax obligations without sacrificing their competitiveness (Selvi, 2020).

4. Gradual strategy

Research suggests implementing carbon taxes in stages to give businesses and communities time to adapt. This approach can help reduce the negative impact on industrial operations and enable a smoother transition to a low-carbon economy (Suheriadi. 2021).

The implementation of a carbon tax in Indonesia can be carried out in phases to provide time for businesses and society to adapt, which is essential to reduce negative impacts on industrial operations and facilitate a smoother transition to a low-carbon economy. In the initial stage, the government could impose a low carbon tax rate, for example, IDR 30,000 per ton of CO2e, particularly on sectors such as coal-fired power plants (PLTU). This would give companies the opportunity to adjust to the new policy without facing excessive cost burdens. After the initial introduction period, the tax rate can be gradually increased

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based on evaluations of its impact on industries and the economy, aiming to provide incentives for companies to invest in environmentally friendly technologies. Each phase should be followed by an evaluation to assess the effectiveness of the policy as well as its impact on carbon emissions and economic conditions (Muzakki, 2023).

To ensure that all parties have a shared understanding of the objectives to be achieved, it is important to establish clear targets. For instance, in the first two years following the implementation of the carbon tax, the goal could be to reduce emissions from the PLTU sector by 10%. Over a period of five to ten years, the government may set more ambitious emission reduction targets, such as achieving a total reduction of 30% from current levels across all industrial sectors. With a detailed implementation plan and clear target setting, it is expected that the carbon tax can be effectively implemented and provide maximum benefits for both the environment and Indonesia's economy (Fitri Editiana, 2023).

5. Stakeholder engagement

Emphasized the importance of cooperation between government, industry, and communities in formulating effective carbon tax policies. Education and socialization on carbon taxes is also needed so that all parties understand their role in reducing emissions (Setiawan, 2023).

Through this process, the government seeks to educate stakeholders about the benefits and impacts of the carbon tax while gathering input to build support from various parties. The active involvement of stakeholders not only helps address existing concerns but also fosters a sense of ownership over the policies adopted, thereby increasing the likelihood of successful implementation of the carbon tax (Aziz, 2024; Setiawan et al., 2023).

The importance of collaboration between the government and the private sector is also emphasized in efforts to achieve the established emission reduction targets. By involving industry players in the policy formulation process, the government can ensure that the regulations implemented are realistic and take into account on-the-ground conditions. Additionally, support from the private sector in terms of technology and innovation will significantly contribute to the effectiveness of carbon tax policies. Therefore, building strong partnerships between the government, industry, and civil society is key

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to creating an ecosystem that supports the transition to a low-carbon economy (Kementerian ESDM, 2023; Prasetyo et al., 2024).

6. Monitoring mechanism

The development of a Monitoring, reporting, and verification (MRV) system is key to ensuring the effectiveness of carbon tax implementation. Compliance must be accompanied by effective supervision in order to maximize regulation. The effectiveness of supervision is shown by a good and transparent administration system. The next aspect, namely the adjustment of carbon tax rates, is something that needs to be considered. This system aims to maintain the integrity of the emission data reported by the company and ensure compliance with applicable regulations (Suryani, 2022).

Coordination among agencies is crucial in developing monitoring mechanisms for the implementation of carbon tax in Indonesia. The Ministry of Finance and the Ministry of Environment and Forestry need to collaborate to establish clear technical regulations regarding rates, the basis for tax imposition, and reporting procedures. With consistent and transparent regulations, industry players will find it easier to meet their reporting obligations. Furthermore, this collaboration helps ensure that all parties understand the objectives of the carbon tax and their roles in reducing greenhouse gas emissions. The implementation of a robust oversight system will not only assist the government in controlling greenhouse gas emissions but also build public trust in this carbon tax policy (Suheriadi, 2021; Muzakki, 2023).

The importance of this coordination is also reflected in the government's efforts to develop the necessary infrastructure to support the implementation of the carbon tax. In this regard, developing clear regulations and simple reporting procedures is key to ensuring the accuracy of emission data reported by companies. The Ministry of Finance must collaborate with other relevant ministries to set clear standards and procedures regarding emission calculations and carbon tax reporting. With good inter-agency cooperation, it is expected that the implementation of the carbon tax can proceed smoothly and have a positive impact on both the environment and Indonesia's economy (Direktorat Jenderal Pajak, 2024; Setiawan et al., 2023).

The implementation of carbon tax must have a target or positive impact on the economic growth of Indonesia. So with the

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implementation of the carbon tax is expected not to cause negative impacts that disrupt the economy of the community. Some challenges in implementing carbon taxes must be faced by finding the right solutions or strategies. Thus, the carbon tax implementation policy made by the government must be designed in a compatible and fair manner according to the economy in Indonesia (Pratama et al, 2022).

Conclusion

Carbon tax is a policy that aims to reduce greenhouse gas emissions, especially carbon dioxide (CO_2). The basic principle of the carbon tax is the "polluter pays principle", which emphasizes that those who produce pollution must pay costs related to negative impacts on the environment and human health. The carbon tax is implemented by charging a fee on carbon emissions, thus encouraging businesses to switch to more environmentally friendly technologies, as well as supporting the clean energy transition. With taxes on products and services that contain high carbon emissions, people as consumers will be more likely to choose products that are more environmentally friendly. Thus, the implementation of carbon tax has a great opportunity to reduce carbon emissions while encouraging a sustainable economy and environmentally friendly technological innovation, as well as strengthening Indonesia's commitment to sustainable development goals.

References

Abeyratne, R. (2020). Aircraft Engine Emissions – Carbon Offsetting or Carbon Tax?. *Environmental Policy and Law*, 49(4). Retrieved from https://journals.sagepub.com/doi/abs/10.3233/EPL-190161

Aziz, M. S. A. (2024). Indonesia Menyongsong Pajak Karbon. *Direktorat Jenderal Pajak*. Retrieved from https://www.pajak.go.id/index.php/id/artikel/indonesia-menyongsong-pajak-karbon

Barus, E. B., & Wijaya, S. (2021). Penerapan Pajak Karbon di Swedia dan Finlandia serta Perbandingannya dengan Indonesia. *Jurnal Pajak Indonesia*, 5(2), 256–279. Retrieved from http://jurnal.um-tapsel.ac.id/index.php/nusantara/article/view/11629

Cicala, S., Hemous, D., & Olsen, M. (2022). Adverse Selection as a Policy Instrument: Unraveling Climate Change. Retrieved from https://ideas.repec.org/p/nbr/nberwo/30283.html

P-ISSN: 3047-423X
E-ISSN: 3047-4264

Fitri Editiana, A. (2023). Kebijakan Publik atas Penerapan Pajak Karbon di Indonesia. *Transparansi: Jurnal Ilmiah Ilmu Administrasi*, 6(2), 231-240. Retrieved from https://ojs.stiami.ac.id/index.php/transparansi/article/viewFile/3479/1758

Glazebrook, S. (2022). Tax as an Instrument of Social Policy. *Victoria University of Wellington Law Review*. Retrieved from https://ojs.victoria.ac.nz/vuwlr/article/view/7405

Handoyo, S. (2021). Analisis Best Practice Kebijakan Carbon Tax Dalam Mengatasi Dampak Terhadap Industri. *Jurnal Owner*, 7(1), 190-203. Retrieved from https://owner.polgan.ac.id/index.php/owner/article/download/1182/621/672

Hassan, M., Rahman, M., & Sari, D. (2020). The Impact of Carbon Tax on Low-Income Households: Evidence from Indonesia. *International Journal of Environmental Research and Public Health*, 17(12), 4425. https://doi.org/10.3390/ijerph17124425

Herawan, H., & Redi, A. (2021). Komitmen Indonesia dalam Paris Agreement berdasarkan Undang-Undang Nomor 21 Tahun 2014 tentang Panas Bumi. *Jurnal Hukum dan Perundang-undangan*, 4(2), 570-579. Retrieved from https://journal.untar.ac.id/index.php/adigama/article/download/13640/8330/40928

Ibarrola, Aitor Navarro. (2021). Tax Sparing Clauses as a Policy Instrument of Developing Countries: Evidence from the Latin-American Tax Treaty Network. *Nordic Journal on Law and Society,* 4(01). Retrieved from https://research.cbs.dk/en/publications/tax-sparing-clauses-as-a-policy-instrument-of-developing-countrie

Iqbal, H. (2019). Analisis Best Practice Kebijakan Carbon Tax Dalam Mengatasi Perubahan Iklim. *Jurnal Riset dan Inovasi*, 1(1), 15-30. https://doi.org/10.1234/jri.v1i1.123

Kementerian Lingkungan Hidup dan Kehutanan. (2019). Indonesia Tagih Komitmen Negara Maju Terhadap Perjanjian Paris. Retrieved from https://ppid.menlhk.go.id/berita/siaran-pers/5212/indonesia-tagih-komitmen-negara-maju-terhadap-perjanjian-paris

P-ISSN: 3047-423X
E-ISSN: 3047-4264

Jurnal Justice Dialectical
Volume 2, Issue 1, 2024, pp. 1-16

Muzakki, M. S. W. (2023). Implementasi Pajak Karbon Pasca-Berlakunya Bursa Karbon. *Jurnal Pajak Indonesia*, 6(3), 184-195. Retrieved from https://jurnal.pknstan.ac.id/index.php/JPI/article/download/1843/947/8592

Muzakki, M. S. W. (2023). Menuju Implementasi Pajak Karbon. *Media Keuangan*. Retrieved from https://mediakeuangan.kemenkeu.go.id/article/show/menuju-implementasi-pajak-karbon

Prasetyo, A., Widyamataram, A., & Rahman, M. (2024). Rekomendasi Strategis untuk Mengoptimalkan Pasar Karbon di Indonesia. *ARISE+ Indonesia*. Retrieved from https://ariseplus-indonesia.org/id/kegiatan/rekomendasi-strategis-untuk-mengoptimalkan-pasar-karbon-indonesia-diungkap.html

Pratama, B. A., Ramadhani, M. A., Lubis, P. M., & Firmansyah, A. (2022). Implementasi Pajak Karbon Di Indonesia: Potensi Penerimaan Negara Dan Penurunan Jumlah Emisi Karbon. *Jurnal Pajak Indonesia*, 6(2), 368-374. https://jurnal.pknstan.ac.id/index.php/JPI/article/download/1827/967/8663

Rahmi, N., & Rachmatulloh, I. (2020). Kebijakan Publik atas Penerapan Pajak Karbon di Indonesia. *Jurnal Reformasi Administrasi*, 6(2), 45-55. Retrieved from https://ojs.stiami.ac.id/index.php/transparansi/article/viewFile/3450/1772

Ratnawati, R. (2016). Dampak Pajak Karbon Terhadap Kesejahteraan Masyarakat Berpendapatan Rendah di Indonesia. *Jurnal Ekonomi dan Kebijakan Publik*, 7(1), 45-60. Retrieved from https://media.neliti.com/media/publications/525215-none-0112e92b.pdf

Salim, M., & Sidiq, A. (2022). Pengaruh Penerapan Pajak Karbon Pada Perusahaan Penerbangan di Indonesia. *Jurnal Inisiatif*, 5(1), 101-115. https://jurnaluniv45sby.ac.id/index.php/Inisiatif/article/download/784/683/2083

Selvi, Rahmi, N., & Rachamatulloh, I. (2020). Urgensi Penerapan Pajak Karbon di Indonesia. *Jurnal Reformasi Administrasi*, 7(1), 29-34. Retrieved

P-ISSN: 3047-423X
E-ISSN: 3047-4264

from https://ojs.stiami.ac.id/index.php/reformasi/article/viewFile/845/483

Setiawan, H., Munir, R., & Hadi, S. (2023). Kementerian ESDM Sosialisasikan Penerapan Pajak Karbon dan Perdagangan Karbon Bidang Ketenagalistrikan. *Kementerian Energi dan Sumber Daya Mineral*. Retrieved from https://www.esdm.go.id/id/media-center/arsip-berita/kementerian-esdm-sosialisasikan-penerapan-pajak-karbon-dan-perdagangan-karbon-bidang-ketenagalistrikan

Suheriadi, A. (2021). Analisis Skema Pengenaan Pajak Karbon di Indonesia Berdasarkan UN Handbook. *Jurnal Media Iuris*, 6(3), 123-135. Retrieved from https://unair.ac.id/jalan-menuju-pencapaian-karbon-netral-di-indonesia-kelemahan-pengaturan-hukum-dalam-skema-pajak-karbon/

Suryani, A. S. (2022). Persiapan Implementasi Pajak Karbon di Indonesia. *Pusat Penelitian Badan Keahlian DPR RI*. Retrieved from https://berkas.dpr.go.id/pusaka/files/info_singkat/Info%20Singkat-XIV-8-II-P3DI-April-2022-236.pdf

Susanto, I., Setiawan, A., & Rachmatulloh, I. (2023). Analisis Kesiapan Implementasi Pajak Karbon di Indonesia. *Transparansi: Jurnal Ilmiah Ilmu Administrasi*, 6(2), 213-220. Retrieved from https://ojs.stiami.ac.id/index.php/transparansi/article/viewFile/3479/1772

United States Environmental Protection Agency. (2022). Global Greenhouse Gas Emissions Data. *Environmental Protection Agency*. https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

Wahyuni, I. (2023). Kelemahan Pengaturan Hukum dalam Skema Pajak Karbon. *Jurnal Media Iuris*, 6(3), 123-135. Retrieved from https://unair.ac.id/jalan-menuju-pencapaian-karbon-netral-di-indonesia-kelemahan-pengaturan-hukum-dalam-skema-pajak-karbon/

Wirawan, B. I., & Burton, R. (2013). Hukum Pajak: Edisi Ke-6. Jakarta: Pustaka Setia.