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Legal and Taxation Analysis of Carbon Tax: Implications for Sustainable Taxation and Environmental Policy

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ABSTRACT

The issue of environmental degradation has become a controversial topic in recent decades. This research aims to explore the legal and taxation implications of carbon tax on taxation policy and environmental sustainability in Indonesia. This research methodology with a literature review approach allows the researcher to collect various sources of information from various sources, such as national journals, books, or international journals. The research found that the implementation of carbon tax has become an increasingly popular approach to reducing greenhouse gas emissions and addressing climate change. In the Indonesian context, implementing a carbon tax requires careful planning and careful consideration of its economic and social impacts. It is important to incorporate complementary policies, incentives for renewable energy sources, social support for low-income households, electric vehicle incentives, appropriate carbon tax rate setting, harmonisation of carbon tax and carbon trading policies, and a strong monitoring system. With strong government commitment and wise policy design, carbon tax implementation in Indonesia can help address the challenges of climate change while maintaining long-term economic health.

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1. INTRODUCTION

The issue of environmental degradation has become a controversial topic in recent decades. This finding is in line with the results of research conducted by the World Health Organisation (WHO), which indicates that around 90% of individuals are exposed to air containing high concentrations of pollutants (IEC, 2020). According to a report by Greenpeace Indonesia in 2019, the World Health Organisation (WHO) identified air pollution as the fourth leading contributor to premature death globally. The emergence of this situation prompted the birth of the Paris Agreement in 2015, which is an agreement under the United Nations Framework Convention on Climate Change (UNFCCC) and was ratified by all 196 member states of the United Nations. The 2015 Paris Agreement was developed in response to the need for the global community to act in the face of environmental challenges (National Law Development Agency, 2016). The main objective of carbon pricing is to reduce and limit greenhouse gas emissions. The programme offers two main benefits, namely as a means to reduce carbon emissions and as a fiscal mechanism to increase state revenue. The regulation of a carbon tax in the tax code is an important step to effectively mitigate the impacts of climate change. A carbon tax is a fiscal policy measure that involves imposing a charge on the

consumption or emission of carbon dioxide. A carbon tax is a fiscal measure imposed on the consumption or use of carbon-based fuels.

The constitutional basis for the establishment of new taxes is outlined in Article 23, Paragraph (1) of the 1945 Constitution. The establishment of laws and regulations in Indonesia is supported by three distinct pillars: philosophical, sociological, and juridical. These pillars provide validity and legal basis for the implementation of laws and regulations in the country. Validity can be explained as conformity with legal principles. A number of previous studies have examined the implementation of carbon taxes, including research conducted by Sutartib (2021). This research investigated the use of carbon taxes in the transport sector, highlighting the limitations of direct emissions-based strategies for some industries. Therefore, it is imperative for the government to also consider fuel-based methods in the comprehensive implementation of a carbon tax. In a recent study conducted by Saputra (2021), research was conducted to assess the feasibility of implementing a carbon tax as a way to generate government revenue. Pamungkas et al. (2022) researched with the aim of assessing the conformity or incompatibility of carbon tax policies in Indonesia with the recommendations outlined in the UN Guidelines for the implementation of carbon tax schemes in developing countries. This research aims to delve deeper into the legal and taxation implications of carbon taxes on tax policy and environmental sustainability in Indonesia. In addition, this paper presents a comprehensive examination of the exempt tax rates that could be applied in Indonesia. This study also examines the law and taxation of carbon taxes and their implications for tax policy and environmental sustainability.

2. RESEARCH METHOD

This research was conducted using a structured approach, combining two complementary methodologies, namely literature review and descriptive qualitative data analysis. The literature review approach allowed researchers to gather diverse sources of information from various sources, such as national and international journals, books, websites, news outlets and country reports. These sources provided a strong framework for understanding the context of implementing a carbon tax, as well as analysing the revenue potential and barriers that may arise. Next, in descriptive qualitative data analysis, the researcher collated and organised secondary data obtained through the literature review. These data were used to describe and explain various aspects related to carbon tax implementation, such as its impact on the economy, environment and society. The qualitative approach allows researchers to deepen their understanding of issues related to the carbon tax, and analyse them in a more detailed way than relying solely on quantitative data. The results of this study are expected to provide a deeper insight into the revenue potential of a carbon tax and the barriers that may be faced in its implementation. Secondary data obtained from various sources will help support the findings of this research and provide a solid basis for policy recommendations in the area of carbon taxation.

3. RESULTS AND DISCUSSIONS

Definition of Carbon Tax

Carbon taxes are derived from the concept of Pigouvian taxes, which involve the application of taxes to economic activities that generate negative externalities. Pigouvian taxes are policies designed to impose financial responsibility on entities involved in environmental pollution, thereby internalising the costs associated with their polluting activities. In essence, Pigouvian taxes can serve as a mechanism to regulate, manage and mitigate activities that generate negative externalities. The implementation of a comprehensive tax policy encourages individuals to carefully consider the consequences of their actions, thereby promoting a more prudent decision-making process. Therefore, the adoption of a carbon tax, which is a form of Pigouvian tax, is expected to reduce the negative externalities associated with carbon emissions by imposing additional fees or duties on relevant activities. According to the IBFD International Tax Glossary (Rogers-Galabush, 2015), a carbon tax can be defined as a fiscal measure that involves imposing a tax on fossil fuels with the primary objective of reducing greenhouse gas emissions, ultimately leading to a decrease in atmospheric pollution and the prevention of climate change. Moreover, like other forms of taxation, a carbon tax can serve as an additional means of generating revenue for the state. In general, a

carbon tax can be understood as a policy tool that aims to internalise the external costs associated with the use of fossil fuels, which results in adverse environmental impacts. This is achieved by imposing a surcharge on activities that are closely related to the use of such fuels. Therefore, the implementation of a carbon tax could be a viable strategy to reduce carbon emissions. This statement is reinforced by the findings of a study conducted by Shapiro (2021), where it was suggested that the adoption of a carbon tax could potentially reduce global carbon emissions by 35% by 2030. The implementation of carbon pricing policies dates back to 1990, when Finland became a pioneering country in implementing such measures. Since then, many countries adopted carbon tax policies in the following years. Currently, 27 countries have successfully implemented such policies, including Ethiopia and Japan.

The objective of carbon tax implementation remains consistent, although each country has designed its own rules for implementation, taking into account the unique situation of each country, including rates, taxable objects, and other aspects. Ethiopia, as one of the developing countries, has also adopted and implemented carbon taxation measures. Ethiopia has an ambitious goal to reduce greenhouse gas emissions by 64% by 2030 through a carbon tax programme. In 2015, the implementation of several measures successfully reduced total carbon dioxide emissions from fossil fuels in Ethiopia by 9.54 million tonnes. According to Mengistu (2019), the overall revenue generated was $47.7 million, at a rate of $5 per tonne. This data shows significant and encouraging results in terms of Ethiopian government revenue. Based on the above analyses, it can be concluded that the introduction of a carbon tax has the potential to increase state revenues, especially in developing countries. Moreover, a carbon tax can also be a viable solution to the challenges faced by developing countries, which often face limited financial resources. Turning to another country of interest, Japan became the first Asian country to implement a carbon tax in 2012. Japan has authorised a strategy that involves imposing a carbon tax on fossil fuel goods, including petroleum, oil products, natural gas and coal.

The revenue generated from the carbon tax will be earmarked specifically for financing renewable energy projects and initiatives aimed at improving energy efficiency. The tax rate changes based on the carbon emissions content of the product. The current rate is considered suboptimal and does not meet the desired goal. The revenue earned by Japan is currently quite low and has limited impact on the country's overall economic expansion (Ohtam 2017). Several factors influence this condition, one of which is the relatively low level of carbon tax rates. Although Japan has made significant achievements in various economic sectors, such as technology, manufacturing, and international trade, the nominal income generated still does not meet international standards that have been recommended by various institutions. This could be an obstacle in the country's efforts to achieve stronger and more sustainable economic growth. It is important to remember that low nominal income can affect various aspects of the economy, including the country's ability to invest in infrastructure, education, and innovation. Low carbon tax rates can also be an obstacle to reducing greenhouse gas emissions and addressing climate change issues (Hasan et al., 2021). With relatively low carbon tax rates, there may be less incentive for companies and individuals to reduce their carbon emissions, which could hinder Japan's progress in achieving more ambitious environmental targets (Boyce, 2018). In the face of these challenges, the Japanese government may need to consider more progressive fiscal and taxation policies as well as an increase in efforts to promote green technology innovation. These measures could help increase the country's revenue, stimulate more sustainable economic growth, and contribute to global efforts to tackle climate change. In addition, Japan can also co-operate with other countries in finding joint solutions to the increasingly pressing problems of income and climate change (Mavrodieva & Shaw, 2020).

With the aim of improving environmental quality through reducing emission levels, the concept of a carbon tax initiates the transition to a greener economy. According to Ian Parry, a carbon tax is a fee imposed on fossil fuels that have carbon content (DDTC News, 2020). A carbon tax is a tax on the consumption of hydrocarbon fuels, as defined by Hoeller and Wallin (DDTC News, 2020). From this perspective, a carbon tax can be seen as an initiative to reduce the harmful impacts of carbon gas production (Chen et al., 2017). The Indonesian government has recognised the need to introduce a carbon price to address the worsening condition of the earth due to increasing levels of greenhouse gas emissions. Greenhouse gas emissions increased by an average of 4.3% each year

between 2010 and 2018, according to data from the Ministry of Environment and Forestry (Mongabay, 2021). As if that wasn't enough, the Meteorology, Climatology and Geophysics Agency also found that annual temperatures in Indonesia rose by an average of 0.03 degrees Celsius between 1981 and 2018 (BMKG, 2022). The possibility of fires, flash floods, changes in biome production that could lead to food scarcity, and the escalation of 80% of Indonesia's total hydrometeorological disasters could be affected by these conditions. The economic sector is equally vulnerable to the impacts of greenhouse gas emissions, with possible losses of 0.66 per cent to 3.45 per cent of GDP (MoEF, 2020). A carbon price is therefore a very useful strategy to combat climate change and promote long-term economic health.

Meanwhile, the Government of Indonesia also imposes a carbon tax of IDR 30 per kilogram or equivalent to USD 0.00202/kilogram CO2e for emissions above a predetermined limit according to Law No. 7 of 2021, based on a cap-and-tax system that imposes a fee on carbon emissions that exceed a predetermined limit Haites (2018). The carbon tax is part of the government's efforts to reduce greenhouse gas (GHG) emissions from the energy sector Haites (2018) . Carbon taxes follow a cap and tax scheme, where companies pay a tax if their carbon emissions exceed a limit set by the government. The use of fossil fuels has a significant impact not only on the companies that use them, but also on the rest of society and the environment. Greenhouse gas emissions resulting from burning fossil fuels, such as carbon dioxide (CO2), cause global warming and climate change. The main contribution to these emissions comes from the transport, industrial and power generation sectors. Thus, the imposition of a carbon tax or strict emission rules, among others, encourages companies and individuals to switch to cleaner and more environmentally friendly energy sources. Therefore, the burden of taxation and responsibility for emissions is not only focused on fossil fuel-using companies, but also includes end consumers and other sectors involved in the energy supply chain.

As such, a carbon tax is levied on GHG emissions that exceed a certain threshold, and the revenue generated from the tax is expected to be used for climate action in Timor-Leste. The carbon tax will come into effect in April 2022, with a pilot programme aimed at coal-fired power plants. The carbon tax is one of the lowest carbon tax rates in the world, and there are no plans for further increases (Timilsina et al., 2011). The carbon tax is expected to reduce GHG emissions by 16 per cent and generate revenue of 0.7 per cent of GDP if the carbon price is set at USD25 (Timilsina et al., 2011). Carbon taxes are unlikely to motivate behavioural change and may not contribute to significant reductions in greenhouse emissions, given the low level of the tax. The carbon tax is part of a suite of environmental economic instruments to be rolled out by Indonesia in the coming months, which also includes an emissions trading scheme.

Implementation of Carbon Tax in Indonesia

These principles form the basis for the implementation of the carbon tax in Indonesia. They will be automatically taxed at IDR 30 per kilogram or USD 0.00202 per kilogram of CO2e according to Law No. 7 of 2021, which is consistent with the nature of the carbon tax in Indonesia, which mandates taxing companies, including individuals and industries, if they commit actions that harm the environment. The government's carbon tax policy aims to persuade the public and businesses to adopt more environmentally friendly practices by inspiring the development of innovative green economy products, the adoption of environmentally sound business practices, and the implementation of investment strategies that consider economic, environmental, and social factors (Ghazouani et al., 2020). In the long run, these initiatives result in economically stable expansion. The fifth precept of Pancasila is consistent with the concept of carbon pricing (Febiola et al., 2023).

This is because Article 28H paragraph (1) of the 1945 Constitution guarantees everyone a good and healthy living environment, and this right can be guaranteed by the implementation of a carbon tax policy. Companies that produce carbon gas emissions are obliged to pay for environmental damage because the carbon emissions they produce have a serious impact on the environment and society as a whole (Setiawan & Iswati, 2019). Carbon dioxide (CO2) gas and other greenhouse gases released by companies, especially in the energy, industry, and transport sectors, contribute significantly to global climate change (Yoro & Daramola, 2020). These climate changes, including rising global temperatures, changes in extreme weather patterns, and sea level rise, can

cause extensive environmental damage and impact ecosystems, natural resources, and human well-being (Wibisima, 2017).

These climate change impacts include forest destruction, loss of biodiversity, floods, droughts, storms, and increased intensity of forest fires. In addition, climate change can also threaten food security, clean water and public health. Therefore, companies that directly or indirectly contribute to carbon emissions are liable for this environmental damage, as they have created the conditions that led to the damage. The obligation of companies to pay for environmental damage is also rooted in the principle of "polluter pays." This principle asserts that those who cause pollution or damage to the environment must pay compensation or finance restoration efforts. This concept reflects social responsibility and business ethics that require companies to consider the environmental impact of their operations. Companies that produce carbon gas emissions therefore have a great moral and legal responsibility in relation to the environmental impacts of their activities. Carbon gas emissions, especially from the industrial and energy sectors, contribute significantly to global climate change and environmental damage. Therefore, these companies must take responsibility for their actions and take measures to reduce or compensate for their negative impacts. From a moral perspective, companies have an ethical obligation to protect the environment and surrounding communities. They should realise that their carbon gas emissions can result in climate change, such as rising global temperatures, extreme weather, and harm to the sustainability of ecosystems. As a result, such companies have a moral responsibility to minimise their impact and contribute to the restoration of damaged environments.

In a legal context, many jurisdictions have adopted rules and regulations that require companies to pay compensation for the environmental damage they cause. This can include fines, remediation costs, or other obligations set by the government. Laws may also force companies to comply with certain environmental standards, such as strict emission limits. In addition, companies concerned with environmental impacts often undertake corporate social responsibility (CSR) initiatives that aim to reduce their carbon emissions, support environmental projects, or compensate affected communities. For example, they may invest in reforestation projects, develop green technologies, or support local communities suffering from climate change. This includes compensation for affected communities, efforts to restore damaged ecosystems, and proactive measures to reduce carbon gas emissions. This is important to ensure that companies are responsible in their operations and contribute to environmental protection and the wider well-being of society. In addition, governments and international agencies have adopted various regulations and rules that govern carbon emissions and require companies to pay for their environmental damage. These include emissions trading systems, carbon taxes and other environmental regulations designed to control emissions and steer companies towards more sustainable practices. By paying for environmental damage, companies can encourage behavioural change and investment in green technologies that can reduce carbon emissions, as well as contribute to global efforts to address climate change and minimise its negative impacts on the environment and society.

Prof Satjipto Raharjo's idea of deep ecology, which states that the purpose of law is not limited to human welfare, but includes all forms of life (Marilang, 2017), is in line with the presence of carbon pricing. This is because, in order to restore environmental conditions, the carbon tax concept emphasises not only the normative realm but also the social, environmental, economic and human realms. Increasing state revenue and achieving sustainable economic development can be achieved through the government's proposal to impose a carbon tax in Indonesia. To date, the COGS Law has provided the positive legal standards necessary to regulate carbon tax policy. The government's strategy to enact a carbon price policy involves a phased rollout that considers the readiness of various industries. However, the coal industry, which is the largest source of pollution in Indonesia, will soon be subject to a carbon pricing scheme. This is because Indonesia has started to introduce mandatory carbon trading for coal-fired power plants. This is part of Indonesia's efforts to encourage renewable energy and achieve zero emissions by 2060. The carbon pricing scheme applies to power plants with a minimum capacity of 100 MW and will later be extended to smaller coal plants and other fossil-fuelled power plants, as well as power plants that are not connected to the State Electricity Company (PLN) grid. The scheme is implemented through Permen ESDM No. 16/2022 and POJK No. 14/2023. The first phase of the carbon trading mechanism covers 99 power

plants with a total installed capacity of 33.6 gigawatts that are directly connected to PLN's grid. The carbon trading mechanism is designed to facilitate the trading of carbon credit certificates issued for projects or activities that remove greenhouse gas emissions from the atmosphere or for companies that produce carbon emissions below government-set pollution thresholds. The carbon pricing scheme is expected to reduce carbon emissions by 36 million tonnes by 2030. The carbon pricing mechanism is a hybrid mechanism that the government calls "cap-and-trade-and-tax". The emissions intensity ceiling is set rather loosely and differentiated across subgroups of coal-fired power plants to match their performance, but it will shield most of their emissions from the carbon charge in the first place. A carbon pricing scheme would help Indonesia to better balance growth and affordability, while piloting and improving its carbon pricing mechanism as it decarbonises. However, the policy remains unclear as it has various alternative meanings and could be cancelled in practice, and a clear legal framework is needed to support carbon pricing legislation. Legal system framework, legal structure relates to the establishment of relevant institutions, legal officers and implementers.

To ensure the successful implementation of the carbon tax levy in society, it is necessary to establish an audit institution under the Ministry of Finance. The Ministry of Finance has responsibility for state financial management and fiscal policy formation. As an institution with audit authority, the Ministry of Finance conducts examinations of fiscal policy implementation and public financial management to ensure regulatory compliance, as well as the effective and efficient use of public funds. The Ministry of Finance has jurisdiction in auditing carbon taxes in Indonesia. Carbon taxes are regulated under the Harmonised Taxation Law (HPP Law) and the Directorate General of Taxes (DGT) is responsible for auditing carbon taxes. The DGT together with the Fiscal Policy Agency (BKF) is finalising the regulation on carbon tax and the regulation is targeted to be completed by 2024. In addition, the Ministry of Finance also has a Sub Directorate of Non-Tax State Revenue tasked with managing non-tax state revenues derived from the environment and forestry sector, including carbon tax.

As the implementation of carbon pricing will affect more than one industry, closer co-operation between the federal government and relevant ministries is necessary. Due to their close relationship with businesses and entrepreneurs, local governments need to have their own institutions to fight corruption and bribery. This is in line with the thoughts of Lord Acton, who said that power corrupts absolutely (Yuliandri and Dinata, 2019). In addition to the substance and form of law, legal culture also plays a role in determining the application of carbon tax in society. Therefore, public policy-making in environmental management is strengthened by community participation. Restoration of legal culture through education and/or counselling to the community to have self-awareness in reducing the negative impact of carbon gas emissions is needed after the successful implementation of legal substance and structure. Sustainable economic growth can be achieved along with the goal of zero carbon gas emissions by 2060 if everyone, especially businesses, adopt environmentally friendly practices such as developing new product innovations, prioritising environmentally friendly products, and conducting activities that produce minimal carbon emissions.

The carbon tax implementation suggested in the revised law involves several important changes. Firstly, it is necessary to amend or regulate Article 13 paragraph (5) of the Price of Goods Sold Law (HPP) by adding a carbon tax subject that includes any person and/or entity that trades carbon-containing goods and/or conducts activities that produce carbon gas emissions. A specialised legislative framework is needed to support carbon pricing policies. The legal system framework, which emphasises the establishment of relevant institutions, enforcement personnel and implementing officials, is referred to as the legal structure. In terms of law enforcement, to guarantee the successful implementation of carbon tax in society, it is a must to create a specialised audit institution under the jurisdiction of the Ministry of Energy and Mineral Resources, the Ministry of Environment, and the Ministry of Finance. In addition, as the implementation of carbon pricing affects sectors other than one, it is necessary to improve coordination between the central government and relevant ministries. As local governments interact directly with businesses and entrepreneurs, which makes them vulnerable to corruption and bribery, their functions should also be strengthened internally. This is in line with Lord Acton's view that the highest authority, which is fully corrupt, is more vulnerable to corruption. Legal culture affects how carbon pricing is implemented in society apart from the content and form of the law. This suggests that strengthening public policy-making in

environmental management requires community involvement. Once the form and content of the law have been effectively implemented, the legal culture must be renewed through education and/or counselling to the public to be more self-aware in reducing the adverse impacts of carbon gas emissions. One way to increase public awareness is to make environmentally friendly activities a habit and culture for everyone, especially businesses, to engage in environmentally friendly activities.

Legitimacy of Carbon Tax Based on Law Number 7 of 2021 on Harmonisation of Tax Regulations.

Integrating tax collection into digital systems is now seen as the gold standard for tax collection due to the efficiency gains and increased transparency it provides to the state. Article 23(2) of the 1945 Constitution states, "All taxes are for state purposes based on law." There is a close relationship between this article and the achievement of a detailed and accountable state budget. State obligations include taxation, which must be implemented by the Indonesian government in order to improve welfare, justice and social development in accordance with the values of Pancasila and the 1945 Constitution of the Republic of Indonesia. Policy changes in the income tax, value-added tax, and excise tax sectors are important steps in achieving the objectives of the fiscal consolidation plan. The plan aims to reduce the budget deficit and improve the tax ratio, which in turn will strengthen the country's fiscal stability and economic growth. In the income tax sector, policy changes may include increasing tax rates for the better-off, reducing vulnerability to tax evasion, and promoting investment in sectors that contribute significantly to tax revenues. In addition, in the value-added tax sector, policy changes could include adjusting tax rates or reducing certain tax exemptions for certain sectors. Also, in the excise tax sector, an increase in excise rates on products that are potentially harmful to health and the environment could be a prudent move. With appropriate policy changes in these sectors, fiscal consolidation plans can be better realised, creating a stronger fiscal foundation for long-term development and equitable distribution of benefits to society. A carbon tax is particularly important in this situation because of its potential to steer economic activity towards low-carbon and sustainable enterprises; to help reduce greenhouse gas emissions; and to encourage the growth of carbon markets, technological advances, and environmentally responsible investment.

A carbon tax is a tool of climate control and sustainable environmental development because it makes those who cause environmental damage pay for their actions. It is expected that emissions of carbon dioxide and other greenhouse gases can be reduced as part of the fight against global warming. Energy efficiency, climate change impacts, innovation, sustainable investment, and ecologically responsible growth are all things that could benefit from the introduction of a carbon price in Indonesia. Some of the changes proposed in this draft law are complementary and do not conflict with existing law, so no changes to the text of the law are required. However, a carbon tax is not yet provided for in the law. The legal basis for a carbon tax is set out, among others, in Law No. 7 of 2021 on Harmonisation of Tax Regulations. The carbon tax is levied on all carbon emissions that harm the environment. In determining carbon tax implementation measures, it is important to consider the carbon roadmap and/or carbon tax roadmap, which includes carbon emission reduction strategies, priority sector objectives, linkages with alternative energy development, and interactions with other policies. The idea of a carbon tax should balance affordability and fairness, while taking into account urban and industrial contexts. The carbon tax rate is greater than or equal to the price of carbon in the carbon market, with a minimum rate of IDR 30 per kilogram of carbon dioxide equivalent (CO2e). Meanwhile, carbon tax is controlled as a state tax at the federal and municipal levels by Presidential Regulation (Perpres) No. 98 of 2021 on the Implementation of the Economic Value of Carbon (NEK), Article 58. This regulation is based on the consideration of carbon content, potential carbon emissions, actual carbon emissions, and the effectiveness of mitigation efforts. In addition, all legal requirements are fulfilled when executing the implementation plan.

As a result, the carbon tax is applied in the form of existing or soon-to-be adopted state taxes, as stipulated in Law No. 7 of 2021 on Harmonisation of Tax Regulations. The coal power generation industry will be subject to the carbon tax from 1 July 2022. In addition, the sociological basis underlying this regulation is based on factual data that reflects the demands of society and the needs of the country. The Indonesian government is committed to reducing carbon emissions independently by 29% by 2030, with carbon tax as one of the tools to achieve the goal of Net Zero Emissions by

2060. A carbon tax encourages emission reductions and more effective use of resources in an effort to maintain the profitability of manufacturing operations and mitigate negative impacts. In addition, the legitimacy of carbon tax based on Law No. 7 of 2021 on Harmonisation of Tax Regulations, in terms of environmental sustainability, is a very relevant and supportive concept within the framework of efforts to protect the environment and reduce the impact of climate change. Law No. 7 of 2021 is an important part of tax regulation in Indonesia, which serves to achieve sustainable goals in various sectors, including environmental protection. Here are some points that explain the legitimacy of Carbon Tax in Law No. 7 of 2021 from an environmental sustainability perspective:

1. Drivers of Carbon Emissions Reduction: A Carbon Tax is an instrument designed to provide incentives for individuals and companies to reduce their carbon emissions. By taxing carbon emissions, companies will tend to find ways to reduce their emissions in order to avoid additional taxes. This supports the environmental goal of sustainability by reducing the impact of climate change.
2. Environmental Impact Adjustment: Law No. 7 of 2021 provides the legal framework for imposing a carbon tax. This is a suitable measure to recognise and adjust the environmental impacts of economic activities. By incorporating a carbon tax, taxation regulation becomes an effective tool in quantifying and addressing environmental impacts.
3. Support for Renewable Energy: One important component of sustainable environmental efforts is shifting energy resources from fossil fuels to renewable energy. A carbon tax can be used to support renewable energy initiatives by imposing higher taxes on carbon emissions generated by burning fossil fuels, while at the same time providing incentives to switch to cleaner energy sources.
4. Revenue Sources for Environmental Initiatives: Revenue raised from a carbon tax can be allocated to support environmental projects and broader environmental protection efforts. These include the development of environmentally-friendly public transport, peatland restoration, and tree planting programmes. Therefore, a carbon tax can make a positive contribution to environmental sustainability through the allocation of these funds.
5. Global Compliance: Through Law No. 7 of 2021, Indonesia can comply with global commitments in reducing carbon emissions and combating climate change. Carbon tax is an instrument that has been used in many countries as part of climate change strategies, and has international legitimacy.

In summary, the Carbon Tax under Law No. 7 of 2021 on Harmonisation of Tax Regulations plays a significant role in supporting environmental sustainability. By incentivising the reduction of carbon emissions, providing a source of revenue for environmental projects, and supporting the shift to clean energy, the carbon tax becomes an effective instrument in achieving broader environmental protection objectives in line with the development of tax regulations in Indonesia.

Challenges and Solutions for Carbon Tax Implementation in Indonesia

When formulating a carbon tax policy, it is crucial for the government to consider the potential consequences for households with low income levels. As mentioned by Renner et al. (2019), a common criticism of carbon tax policies is the perceived failure to distribute the burden fairly to low-income earners. To address the potential price increase due to carbon taxation, the government's strategy could be to create incentive or subsidy programmes that aim to compensate for the financial impact on non-producers of certain pollutants in the industry. Through this measure, the government can reduce public disapproval of a carbon tax by ensuring that the economic burden is not solely centred on the end consumer. For example, carbon tax funds could be allocated to support green projects, green infrastructure, or even given as tax refunds to the general public. Thus, this approach can strengthen public support for efforts to internalise the cost of externalities without disadvantaging non-polluting parties in the industry (Ratnawati, 2016). On the other hand, the main objective of this initiative is to reduce the financial pressure experienced by economically challenged communities associated with the implementation of carbon pricing policies. One example of a policy implemented by British Columbia is the Climate Action Tax Credit. This policy involves a 5% reduction in income tax for the first two income tax brackets. In addition, it offers a Northern and Rural Homeowner Benefit, as well as CAD 200 in financial assistance to low-income households.

In addition, to increase the effectiveness of carbon policy as a way to achieve climate change prevention, the government may consider incentivising electric vehicles and alternative energy to reduce carbon emissions (Bonsu, 2020). The design and mechanism of carbon tax policy should be harmonised and aligned with Indonesia's economic structure. The aim is to provide an equitable policy framework and facilitate a socially and economically just transition. According to the OECD (2001) publication titled "Environmental Taxation: A Guide for Policy Makers," there are several factors to consider when designing environmental taxes.

1. The main emphasis in the implementation of environmental tax policy lies in targeting pollution or polluting behaviour.
2. It is important to ensure that the environmental tax rate is in line with the amount of environmental damage produced.
3. Decide on a tax rate that is in line with the level of environmental damage incurred.
4. It is important to set tax rates that are reliable and credible to effectively incentivise environmental improvements.
5. The utilisation of environmental tax policy should be directed towards supporting budget consolidation efforts or reducing other tax burdens.
6. Consideration of the distributional consequences of environmental tax policy requires the use of alternative policy instruments.

On the other hand, the government also faces various obstacles when implementing a carbon tax policy, including the need to develop strict and clear policies for tax recipients. In addition, determining the most optimal carbon tax rate to address environmental issues while promoting economic growth is another challenge. The government must develop a reliable Monitoring, Reporting and Measurement system that builds trust among taxpayers and encourages greater compliance with tax obligations (Kiow et al., 2017). In addition to identifying challenges in implementing a carbon tax in Indonesia, here are some solutions that can be considered:

1. Social Support: It is important for the government to provide social support to low-income households that may be affected by price increases due to the carbon tax. This could be in the form of financial assistance programmes, special tax incentives, or special assistance for clean energy procurement. Examples such as the Climate Action Tax Credit in British Columbia can be adopted as a guide.
2. Electric Vehicle Incentives: Governments can encourage the use of electric vehicles by providing incentives such as tax reductions or financial incentives for buyers of electric vehicles. This will help reduce emissions from the transport sector, which is a major contributor to carbon emissions.
3. Setting the Right Carbon Tax Rate: The government needs to set an appropriate carbon tax rate that reflects the environmental impacts of different economic activities. The tax should be high enough to incentivise companies and individuals to reduce emissions, but should also be managed wisely to avoid excessive economic burden.
4. Robust Monitoring System: The government should develop a robust Monitoring, Reporting, and Measurement (MRV) system to monitor the implementation of the carbon tax. This will ensure taxpayer compliance and promote transparency in the use of funds obtained from the carbon tax.
5. Commitment to Clean Energy Sources: The government should demonstrate a long-term commitment to the development of clean energy sources and reduce dependence on fossil fuels. This could include building renewable energy infrastructure, improving energy efficiency, and promoting green technologies.

By implementing these solutions, the Indonesian government can reduce the negative economic impact of the carbon tax, promote the transition to a more sustainable economy, and achieve better environmental protection goals.

Implications of Taxation Policy and Environmental Sustainability

The implications of carbon taxation policy in Indonesia based on the above research results are very significant in the context of environmental sustainability. The implementation of carbon tax aims to motivate companies and individuals to reduce carbon gas emissions, which are the cause of global climate change that damages the environment and negatively affects society. In the long run, this policy is expected to bring about a steady expansion of the environment, along with efforts to

achieve broader climate change goals. This policy is also consistent with the principle of "polluter pays," which asserts corporate responsibility for the environmental damage they cause. By paying for environmental damage, companies will encourage behavioural change and investment in green technologies, reduce carbon emissions, and support global efforts to address climate change. In addition, this policy adheres to the principle of deep ecology, which views the environment as an entity with intrinsic value, not just as a resource that can be exploited.

In addition, the Government has a very important responsibility in ensuring that the carbon tax is implemented effectively and sustainably. To achieve this goal, certain steps need to be taken. First of all, it is important for the government to manage the carbon tax wisely. This means that carbon tax rates should be carefully set so that they accurately reflect the environmental impacts generated by various human activities. A tax rate that is too low can reduce the incentive for individuals and companies to reduce their carbon emissions, while a rate that is too high can burden people and businesses without providing a sustainable solution. In addition to setting the right tax rate, the government also needs to ensure a robust Monitoring, Reporting and Measurement (MRV) System is in place. MRV will allow the government to oversee and monitor the implementation of the carbon tax policy, as well as measure its impact on reducing carbon emissions. With accurate and transparent data, the government can identify whether the carbon tax programme is successful or requires adjustments. In addition, MRV also plays an important role in ensuring taxpayer compliance with the carbon tax. With a robust system in place, the government can oversee the reporting of carbon emissions by companies and individuals, and ensure that carbon tax obligations are properly complied with.

Legal action can be taken against those who do not comply with regulations, thus encouraging better compliance in society. By implementing these measures, the government can ensure that the carbon tax becomes an effective tool in the effort to reduce carbon emissions and protect the environment. By managing the carbon tax wisely and supporting it with a robust MRV system, the government can achieve its goal of tackling climate change and keeping our planet sustainable. Furthermore, it is important for governments to demonstrate a long-term commitment to clean energy sources and green technologies. This will help steer investment and innovation towards more sustainable and environmentally friendly practices. In the context of Law No. 7 of 2021 on Harmonisation of Tax Regulations, the implementation of a carbon tax is an important part of efforts to achieve climate change goals and a better environment. While there are still challenges to overcome, this policy demonstrates the Indonesian government's commitment to protecting the environment and promoting sustainable development.

4. CONCLUSION

A carbon tax is a policy instrument that is expected to reduce carbon emissions by imposing a surcharge on activities that generate carbon emissions. The implementation of carbon tax in Indonesia is based on Law No. 7 of 2021 on Harmonisation of Tax Regulations. The carbon tax was initially scheduled to be implemented on 1 April 2022, but was later postponed to 1 July 2022, mainly in the coal power generation sector. Despite the government's efforts to reduce adverse impacts on society and the economy, such as incentives for renewable energy sources, there are still some challenges, especially in addressing imbalances in the application of the carbon tax in the power generation sector.

The implementation of a carbon tax in Indonesia is an important step in reducing carbon emissions and contributing to global efforts to address climate change. However, the application of this tax must be followed by effective planning and complementary policies to prevent significant economic distortions and ensure that people's consumption continues to run smoothly. Challenges in the imbalance of carbon tax application, especially in the power generation sector, need to be addressed to achieve more effective results in reducing emissions. Future research could focus on the long-term economic impacts of implementing a carbon tax in Indonesia, including more in-depth analyses of how the carbon tax affects people's purchasing power and the business sector. In addition, research could consider complementary policy alternatives that could mitigate the negative impacts of the carbon tax and encourage a shift to renewable energy sources. Finally, research could investigate ways to address imbalances in the application of the carbon tax across different sectors

of the economy, including power generation, so that the policy can be more effective in reducing overall carbon emissions.

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