Achieve *Sustainable Development Goals* (SDGs) And Tax Revenue Growth In Indonesia

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Abstract

The rise of global carbon emissions and Indonesia's stagnant tax ratio challenge the country's sustainable development agenda. This study analyzes carbon taxation as a fiscal instrument to support the Sustainable Development Goals (SDGs) while enhancing tax revenue. Using a descriptive qualitative approach, this research is based on a literature review of policy documents, secondary data, and academic sources. Findings show that although Indonesia's carbon tax is still limited in scope and constrained by weak emissions reporting and industry resistance, it has the potential to generate over IDR 21 trillion annually. The tax also contributes to SDG 13 (Climate Action), SDG 7 (Clean Energy), SDG 12 (Responsible Consumption), and SDG 17 (Partnerships for the Goals) through incentives and emission control. This study concludes that integrating fiscal policy with green development through carbon taxation offers a strategic path toward an inclusive, sustainable, and low-carbon economy.

Keywords*: carbon tax, climate change, SDGs, sustainable development, tax revenue*
JEL Codes : H23, Q01, H20

INTRODUCTION

The phenomenon of climate change, characterized by global warming and the intensity of natural disasters, is a key indicator of an environmental crisis that has a systemic impact on social and economic development. The *Intergovernmental Panel on Climate Change* (IPCC) report states that greenhouse gas (GHG) emissions, which have continued to increase since the industrial era, are the main cause of global warming (IPCC, 2023). Indonesia, as a developing country with significant economic growth, contributes to GHG emissions from the energy, industrial, transportation, and forestry sectors.

Based on data *from the Global Carbon Project*, Indonesia ranks 6th as the country with the highest carbon dioxide (CO_2) emissions in the world, with total emissions of 729 million tons or around 1.8% of global emissions. This confirms that Indonesia has a significant role to play in efforts to mitigate global climate change. Contributing 1.8% of total global carbon emissions is a serious warning for Indonesia to further increase awareness and concern in implementing sustainable development policies.

In addition, the trend of carbon emissions in Indonesia continues to increase significantly over time. *World Bank* data shows that Indonesia's carbon emissions rose from around 50 million tons of CO_2 in 1973 to more than 680 million tons of CO_2e in 2023, reflecting an almost 14-fold increase in the last five decades. This trend shows that even though Indonesia is a developing country, its contribution to global emissions accumulation cannot be ignored. This fact reinforces the urgency for Indonesia to take concrete steps in the transition to a low-carbon economy through more assertive policies, such as the implementation of carbon taxes, the development of renewable energy, and the strengthening of the domestic carbon market.

Table 1. Ten Countries with the Highest Carbon Emissions in the World in 2022

Rank	Country	Million tons of CO_2	% of World CO_2 Emission
1	Cina	12.667	32,88%
2	Amerika Serikat	5.057	12,6%
3	India	2.830	6,99%
4	Rusia	2.032	4,96%
5	Jepang	1.083	2,81%
6	Indonesia	729	1,8%
7	Iran	691	1,78%
8	Jerman	673	1,75%
9	Arab Saudi	663	1,66%
10	Korea Selatan	636	1,53%

Source: Global Carbon Project and World Population Review (2022)

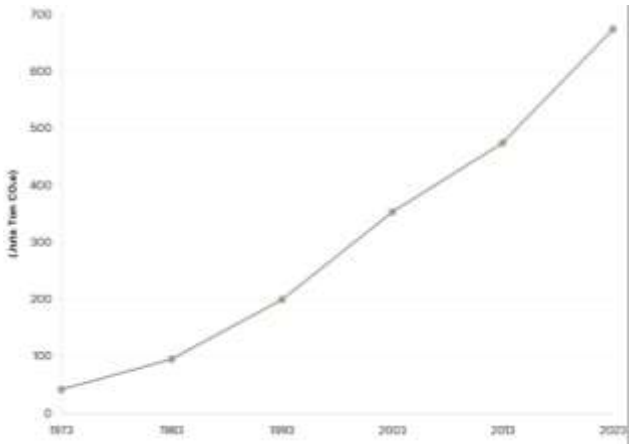

Figure 1 Trends in carbon Emissions in Indonesia

To address these challenges, the world has agreed on the *Sustainable Development Goals* (SDGs) launched by the United Nations. In particular, Goal 13: Climate Action, encourages countries to take concrete steps in climate mitigation and adaptation (*United Nations*, 2015). Indonesia has demonstrated its commitment by ratifying *the Paris Agreement* with Law No. 16 of 2016 and setting emission reduction targets of 31.89% (independently) to 43.20% (with international support) by 2030 (Ministry of Environment and Forestry [KLHK], 2022).

On the other hand, taxation plays a role vital in financing national development. However, challenges in increasing tax revenue remain significant, as reflected in Indonesia's tax ratio, which has remained stagnant at around 10–11% of GDP over the past decade (Ministry of Finance of the Republic of Indonesia, 2023). This condition requires innovation in fiscal policy, one of which is through a *carbon*

tax as a fiscal instrument that not only functions as a source of revenue but also encourages behavioral change towards a low-carbon economy.

Application of carbon tax has shown positive impacts in various countries. A study by *Metcalf* and *Stock (*2020) on OECD countries shows that carbon taxes can effectively reduce emissions without negatively impacting economic growth. In addition, *the International Monetary Fund (*IMF) also states that carbon pricing policies can contribute significantly to state revenues, especially for developing countries such as Indonesia (IMF, 2022).

As a first step, Indonesia has passed the the Harmonization of Tax Regulations (HPP Law) in 2021, which regulates the imposition of a carbon tax of IDR 30 per kilogram of CO_2e. Implementation began gradually in 2022, but as of mid-2025, its realization is still limited to the coal- fired power generation sector, with challenges in the form of emission data readiness, carbon trading schemes, and resistance from the business world (Ministry of Finance of the Republic of Indonesia, 2024).

Therefore, it is important to review how implementation of carbon carbon in Indonesia can be a bridge in achieving the SDGs, especially climate goals, while increasing the tax revenue ratio in a sustainable manner. This study aims to examine the effectiveness of carbon tax policies from an environmental and fiscal perspective, through a qualitative approach based on literature and policy analysis.

LITERATURE REVIEW

Carbon Tax

A carbon tax is a type of environmental tax imposed on activities or products that produce greenhouse gas (GHG) emissions, particularly carbon dioxide (CO_2). This tax is not limited to fossil fuel combustion activities, but also covers other sectors such as energy, industry, agriculture, forestry, and waste management. Its main objectives are to reduce GHG emissions in line with national emission reduction targets (*Nationally Determined* Contribution/NDC), encourage changes in the behavior of the community and industry players towards a more environmentally friendly direction, and fund sustainable green economic development. In Indonesia, provisions regarding carbon tax are stipulated in Law Number 7 of 2021 concerning Harmonization of Tax Regulations (HPP Law). In the initial stage, its implementation will focus on coal-fired power plants, with a rate of IDR 30 per kilogram of CO_2. The revenue from this tax is planned to be used to support low-emission projects and accelerate the transition to clean energy in the country (DJP, 2025).

Carbon Emissions

According to the Big Indonesian Dictionary (KBBI), emissions are defined as "gases resulting from engine combustion that are released into the air". In this context, carbon emission or carbon dioxide (CO_2) refers to the release of CO_2 gas into the Earth's atmosphere. According to the IPCC report, carbon dioxide (CO_2) accounts for more than 70% of total global GHG emissions, making CO_2 control key to climate change mitigation (IPCC, 2021). Carbon emissions that are not properly managed will cause problems in the future, one example being environmental issues. Therefore, a new strategy is needed to reduce carbon emissions, which will increase tax compliance in Indonesia (Fandira, Solistiyowati, and Widiyanto, 2022).

Sustainable Development Goals (SDGs)

The 2030 Agenda for Sustainable Development or *Sustainable Development Goals* (SDGs) is a global agreement approved by world leaders, including Indonesia, as a continuation of *the Millennium Development Goals* (MDGs) that ended in 2015. The SDGs aim to end poverty, reduce inequality, and protect the environment with an approach based on human rights and the principle of equality. By promoting the principles of universality, integration, and inclusiveness, the SDGs affirm the commitment to *leave no* one *behind*. Carbon tax contributes directly to SDG 13 (*Climate Action)* through emission control, SDG 7 (*Affordable and Clean Energy)* through energy transition funding, SDG 12 (*Responsible Consumption)* through incentives for behavioral change in consumption, and SDG 17 (*Partnerships for the Goals)* through strengthening cross-sector collaboration and international cooperation in technology development and energy transition financing.

Table 2. Empirical Study

Author and Year	Research Focus	Key Findings
Fandira et al. (2022)	Strategi implementasi pajak karbon dalam mendukung kepatuhan pajak dan pencapaian SDGs 2030	Carbon taxes can reduce emissions and increase tax compliance, but still faces regulatory challenges and industry sector readiness.
Meila et al. (2024)	Proyeksi penerimaan negara dari pajak karbon dan dampaknya terhadap pengurangan emisi karbon di sektor energi	Carbon tax in the energy sector has the potential to generate IDR 23.280 trillion in 2025. Implementation could change industry behavior towards a green economy.
Valentina (2024)	Peran pajak karbon, green bonds, dan laporan keberlanjutan dalam pencapaian SDGs melalui tinjauan literatur sistematis	The implementation of carbon tax is important for achieving the SDGs, but it is still not optimal. Collaboration between fiscal policy and sustainability reporting is essential.
Wirawan & Setijaningsih (2022)	Faktor-faktor yang memengaruhi pengungkapan emisi karbon di perusahaan otomotif di Indonesia	*Board diversity*, *profitability*, and *leverage* do not significantly affect emissions disclosure unless moderated by media exposure.
Pratama et al. (2022)	Implementasi Pajak Karbon di Indonesia: Potensi Penerimaan Negara dan Penurunan Jumlah Emisi Karbon	If applied at a rate of Rp30/kg CO_2e, the carbon tax has the potential to generate state revenue of up to Rp23.65 trillion in 2025, particularly from the energy sector.

RESEARCH METHOD

This study uses a descriptive qualitative approach with a literature study method (*library research*). This approach was chosen to explore a deeper understanding of the implementation of carbon tax in Indonesia and its relevance to the achievement of *Sustainable Development Goals* (SDGs) and tax revenue growth. This study does not use primary data, but rather utilizes secondary data sourced from national and international scientific journals, laws and regulations such as the Taxation Harmonization Law (UU HPP) No. 7 of 2021, reports from institutions such as the Global Carbon Project, and official documents from the government and international organizations.

The analysis technique used is content analysis, which examines and interprets the information contained in the collected literature. The aim is to identify the relationship between carbon tax policy, its fiscal role, and its contribution to the achievement of sustainable development goals. The validity of the study is maintained by triangulating sources, i.e., comparing data from various credible and up-to-date publications. With this approach, the study is expected to provide a comprehensive conceptual overview of the strategic role of carbon tax in supporting the green development agenda and sustainable fiscal policy in Indonesia.

RESULTS AND DISCUSSION

Implementation of Carbon Tax in Indonesia

The implementation of carbon tax in Indonesia is part of the government's strategy to internalize the negative externalities of carbon emissions into the national economic system. This tax is regulated in Law Number 7 of 2021 on Harmonization Regulation Taxation (HPP Law), and began to be implemented on April 1, 2022, limited to the coal-fired power plant (PLTU) sector. The initial tariff is set at IDR 30 per kilogram of carbon dioxide equivalent (CO_2e), with a phased implementation scheme and sector expansion planned to continue until 2025 (Fandira *et al.*, 2022).

The government has adopted a *cap and tax* approach, which sets a certain upper limit (*cap*) on permitted carbon emissions. If actual emissions exceed this limit, companies are required to pay a tax on the excess

emissions. In addition, Indonesia is also developing a carbon market mechanism to complement its carbon tax policy. This approach allows companies that are able to reduce their emissions to sell their excess emission rights to other entities that need them, thereby achieving collective emission reduction efficiency.

Although this policy demonstrates a progressive and environmentally conscious fiscal policy direction, its implementation faces several crucial challenges. One of them is the suboptimal *Monitoring, Reporting, and Verification* (MRV) system, which is the backbone of emissions measurement. Without a strong and accountable MRV system, the potential for manipulation or inaccurate reporting can interfere with the accuracy of tax collection. In addition, there are concerns from industry circles about the impact of additional costs on operational structures and competitiveness, especially in energy-intensive and manufacturing sectors. This highlights the need for adequate fiscal incentive strategies and transition support from the government to avoid excessive economic burdens. To date, the implementation of carbon tax in Indonesia is still limited to the coal-fired power generation sector with a rate of IDR 30 per kilogram of CO_2e. This relatively low coverage and rate indicates that the policy is still in its early stages and is experimental in nature.

This unlike some developed countries such as Sweden and Canada, which have set higher tariffs and broader sector coverage, accompanied by structured social compensation mechanisms, strengthening policy design is an important aspect of promoting long-term effectiveness. In addition, coordination between government agencies such as the Ministry of Finance, and the Financial Services Authority must also be strengthened so that policies can be implemented consistently, without overlap, and in line with the national sustainable development agenda.

Thus, the implementation of carbon tax in Indonesia reflects an important effort to combine fiscal and environmental policies in a mutually supportive framework. If implemented effectively and inclusively, this policy has great potential not only to reduce emission rates but also to create new sources of sustainable state revenue.

Carbon Tax as an Instrument to Support the Achievement of SDGs

The application of carbon tax has broad implications not only in the fiscal context, but also as part of a sustainable development strategy. Carbon tax plays an important role in supporting the achievement of *Sustainable Development Goals* (SDGs), as it directly and indirectly contributes to climate change mitigation efforts, energy transition, consumption efficiency, and institutional strengthening and cross-sectoral cooperation.

One of the main contributions of carbon tax is in supporting SDG 13, namely climate change mitigation. This tax encourages the reduction of greenhouse gas emissions by imposing a fiscal burden on economic activities that produce high emissions, thereby encouraging a shift towards cleaner technologies. In addition, carbon tax also encourages the achievement of SDG 7 (Clean and Affordable Energy) because the revenue from this tax can be allocated to finance renewable energy subsidies, green energy research and development, and fair energy transition programs.

Table 3. Contribution of Carbon Tax to SDG Goals

SDG Goals	Contribution of Carbon Tax
SDG 13 (Climate Action)	Reducing greenhouse gas emissions through emission control in the industrial and energy sectors
SDG 7 (Clean Energy)	Promoting investment in renewable energy using tax revenue
SDG 12 (Responsible Consumption)	Stimulating environmentally friendly production and resource efficiency
SDG 17 (Global Partnerships)	Enhancing cross- sector collaboration and international cooperation in green technology

Source: [Saputra *et al*., 2021; Aisyah, 2020]

Other contributions can be seen from the link between carbon tax and SDG 12 (Responsible Consumption and Production), where this policy encourages companies to transform towards more environmentally friendly and resource-efficient production processes. Finally, SDG 17 (Partnerships for the Goals) is also supported through synergies between ministries, institutions, the business world, and international cooperation in the development of carbon markets and low-carbon energy transition technologies.

Table 4. Estimated Potential Carbon Tax Revenue

Parameters	Estimation
Total CO_2e emissions Indonesia	729 million tons per year
Carbon Tax Rate	IDR30 per kilogram CO_2e
Potential Tax Revenue	± IDR21.87 trillion per year
Initial Implementation Sector	Coal-fired power plants
Implementation Time Nationwide	Initial Implementation Sector

Note: Source: [Global Carbon Project, 2022; Law No. 7 of 2021]

Furthermore, carbon tax also plays an important role in financing sustainable development through the *earmarking*, namely the allocation of tax revenues specifically for purposes that support energy transition and climate change mitigation. These funds can be used to support compensation programs for affected communities, incentives for green industries, or financing for low-carbon infrastructure projects. The contribution of carbon tax to the SDGs is not only sectoral but also comprehensive in supporting sustainable development. To optimize this contribution, the planning of tax revenue use (*earmarking)* needs to be directed towards strategic programs directly related to energy transition, social protection, and green innovation. This is in line with *Metcalf's (*2020) idea, which emphasizes the importance of utilizing carbon tax revenue for socio- environmental purposes so that this policy has strong legitimacy and a sustainable impact. However, the effectiveness of this policy is highly dependent on transparency, good fund management, and accountable oversight.
Thus, it can be concluded that carbon tax is not only a fiscal tool, but also a strategic development instrument that can bridge environmental, social, and economic interests within the framework of the SDGs. Strong integration between taxation policy and the sustainable development agenda is a key element in realizing an inclusive and resilient green economy in Indonesia.

Potential Carbon Carbon on Tax Revenue Growth
In addition to its function as an emissions control instrument, carbon tax also has strategic potential as a new source of revenue for the state. This is increasingly relevant given the importance of tax base diversification and the need for financing for the sustainable development agenda. Based on data from the *Global Carbon Project* data, Indonesia ranks sixth as a country. The world's largest producer of carbon dioxide (CO_2) emissions, with total emissions reaching around 729 million tons of CO_2e per year or around 1.8% of total global emissions (Fandira *et al*., 2022). If all these emissions were subject to a carbon tax at the current rate of Rp30 per kilogram of CO_2e, the potential state revenue could reach around Rp21.87 trillion per year. This revenue has the potential to become an alternative source of funding that supports the national development agenda, particularly in financing energy transition projects and the development low-carbon program. With integrated fiscal management, carbon taxes can strengthen the state's capacity to finance the SDG agenda.

This projection is still theoretical, given that the implementation of carbon tax is currently limited to the coal-fired power plant (PLTU) sector. However, this fiscal potential will increase in line with the expansion of sectors subject to carbon tax and gradual tariff increases in accordance with the government's policy *roadmap*. In addition, plans to develop a domestic carbon market and integrate it with the emissions trading system could increase the efficiency and scope of this policy in encouraging contributions to state revenue.

However, in order for this fiscal potential to be fully realized, a strong regulatory framework and a transparent monitoring system are required. The success of carbon tax policies is highly dependent on the clarity of the roadmap implementation, reliability of the emissions reporting system (MRV: *Measurement, Reporting, and Verification)*, as well as consistent inter-agency coordination.

However, to realize this potential, several important prerequisites must be met. First, a standardized and nationally mandated corporate carbon reporting system is needed, for example through ESG (*Environmental, Social, and Governance*) reports or the GRI (*Global Reporting Initiative*) reporting framework. Second, the government needs to accelerate the development of domestic carbon market infrastructure so that carbon trading mechanisms can run parallel to tax policies. Third, massive education for business actors and the public regarding the benefits and logic behind carbon taxes is important to build social support for this policy.

Beyond technical aspects, lessons from other countries show that the success of carbon taxes as a revenue source depends on clarity in the use of funds. Countries such as Sweden and Canada use most of their carbon tax revenue to reduce other tax burdens or fund environmental projects, thereby producing a double effect in the form of economic stimulus and strengthening the green transition (Chotimah, 2017). For Indonesia, a similar strategy can be applied by allocating carbon tax revenue to renewable energy projects, improving environmentally friendly transportation environmental roadmap, as well as social assistance for affected communities.

Thus, carbon taxes have great potential to become a source of revenue that is stable and sustainable, while also having a positive impact on the achievement of climate and national development targets. In order to realize this potential optimally, holistic, inclusive, and transparent data-based supporting policies are needed.

Potential Carbon Tax Revenue from the Energy Sector in Indonesia

The energy sector is one of the largest contributors to carbon emissions in Indonesia. Based on a report by the Ministry of Environment and Forestry (2021), in 2019 this sector produced emissions of 638,808 gigagrams of CO_2e, or around 34.22% of total national emissions. This high contribution shows that the energy sector is a strategic area for the implementation of carbon tax, both in terms of emission control and potential state revenue.

In a study conducted by Pratama *et al*. (2022), a projection of the potential carbon tax revenue from the energy sector using a minimum tariff scenario of IDR 30/kg CO_2e in accordance with the provisions of Law Number 7 of 2021 concerning Harmonization of Tax Regulations (HPP Law). This projection uses an *exponential smoothing* approach with an assumed average emission growth of 3.57% per year.

The calculations show that the potential carbon tax revenue from the energy sector in 2019 reached IDR 19.16 trillion, and is estimated to increase gradually to IDR 23.65 trillion in 2025. Cumulatively, state revenue during the 2019-2025 period from this sector could reach more than IDR 149 trillion, if the carbon tax scheme is implemented consistently and comprehensively.

This projection shows that in addition to functioning as an emission control instrument, carbon tax can also be an alternative source of sustainable state fiscal revenue. This revenue can be used to fund the clean energy transition, balance the burden of energy subsidies, and finance development programs that support the achievement of SDG targets, particularly goals 7 (clean and affordable energy), 12 (responsible consumption and production), and 13 (climate action).

Table 5. Summary of Estimated Carbon Tax Revenue Potential from the Energy Sector (2019-2025)

Year	Carbon Emissions (Gg CO_2e)	Tax Rate (IDR/Kg)	Potential Revenue (Trillion Rupiah)
2019	638.808	30	19.164.240
2020	661.603	30	19.848.090
2021	685.211	30	20.556.330
2022	709.622	30	21.288.660
2023	734.985	30	22.049.550
2024	761.212	30	22.836.360
2025	788.375	30	23.651.250

Source: Pratama et al., 2022; reprocessed.

The Urgency of Implementing Carbon Tax in Indonesia and Its Role as a National Strategic Solution

The implementation of a carbon tax in Indonesia is no longer a reactive policy option, but has developed into a strategic and urgent necessity. This is inseparable from the fact that Indonesia is currently one of the ten largest carbon emitting countries in the world, contributing around 1.8% of total global emissions, or 729 million tons of CO_2e per year (*Global Carbon Project*, 2022). This ranking places Indonesia in a very important position in the context of global climate change mitigation efforts global climate change mitigation efforts, especially in the Asia-Pacific region.

Domestically, data from the World Bank (2025) shows that Indonesia's carbon emissions have surged from around 50 million tons in 1973 to more than 680 million tons of CO_2e in 2023, an almost 14- fold increase in five decades. This growth in emissions has gone hand in hand with economic growth and industrialization, but unfortunately has not been balanced with sustainable energy transformation. The surge in emissions has put enormous pressure on the environment, increased the risk of climate disasters, exacerbated social inequality, and burdened the state budget for disaster management and climate crises.

From a fiscal policy perspective, the urgency of implementing a carbon tax has also emerged as a solution to address the challenge of state revenue. Indonesia has faced stagnant tax ratios, which have remained at 10–11% of GDP over the past decade (Ministry of Finance, 2023). A narrow tax structure that relies on traditional sectors has driven the need to diversify state revenue sources. A carbon tax can be an innovative instrument to broaden the tax base, while internalizing the external costs of economic activities that produce high emissions.

The projected potential revenue from carbon tax is also quite significant. With a rate set in the HPP Law at IDR 30 per kilogram of CO_2e, and assuming it is imposed on total annual emissions, the state has the potential to earn more than IDR 21 trillion per year from this levy (Fandira *et al*., 2022). These funds can be directed to finance energy transition programs, clean technology subsidies, incentives for green industries, and social protection for vulnerable groups affected by the transition.

Furthermore, carbon tax plays a strategic role as a tool to drive economic transformation towards a low-carbon economy. In line with *Pigouvian Tax* theory, this policy provides a strong market signal to change the behavior of producers and consumers, and encourages the allocation of resources to more environmentally friendly sectors (*Stiglitz*, 2019). Other positive impacts include the stimulation of green technology innovation, sustainable investment, and the development of an integrated domestic carbon market.

However, the success of this policy is highly dependent on a robust and equitable implementation design. Carbon tax governance must uphold the principles of transparency and accountability, including in emissions reporting, tariff setting, and tax revenue utilization. In addition, institutional strengthening and coordination between agencies such as the Ministry of Finance, the Ministry of Environment and Forestry, and the Financial Services Authority are absolute requirements for the success of this policy.

As a developing country committed to *the Paris Agreement* and *the Sustainable Development Goals*, Indonesia is at an important crossroads. The implementation of a carbon tax is one of the strategic steps to bridge the demands of economic development and environmental protection. With an inclusive policy design and consistent implementation, the carbon tax can be a key instrument in strengthening fiscal resilience, accelerating energy transition, and ensuring the sustainability of national development.

Challenges and Lessons Learned from Carbon Tax Implementation

The implementation of carbon tax in Indonesia faces various structural and technical challenges. First, the Monitoring, Reporting, and Verification (MRV) system is still not optimal. This system is important to ensure the accuracy of emission data from business actors and to serve as the basis for fair and accountable taxation (Fandira et al., 2022). Without a strong MRV, the risk of carbon tax avoidance and public distrust increases.

Second, resistance from industry, especially the fossil fuel sector, remains high. Many businesses view carbon taxes as an additional cost burden that threatens competitiveness, particularly given the limitations of low-emission technologies (Saputra *et al*., 2021). Therefore, *a just transition* through incentives, financial support, and compensation policies is essential to mitigate the impact on vulnerable sectors.

Third, coordination between government agencies is not yet well integrated. The roles of the Ministry of Finance, the Ministry of Environment and Forestry (KLHK), and the Financial Services Authority (OJK) are not yet fully synchronized, particularly in the integration of emissions data, ESG reporting, and the design of fiscal incentives (Aisyah, 2020). The experiences of other countries provide important lessons in the implementation of carbon taxes. Sweden and Canada, for example, show that the success of this policy is largely determined by a progressive tariff design, a fair compensation mechanism, and the active involvement of stakeholders, including local governments and civil society. Therefore, Indonesia needs to strengthen the dimensions of social justice, transparency, and accountability in the implementation of carbon tax to ensure long-term success. Indonesia can also learn from international practices. Sweden sets high carbon tax rates and uses the revenue to reduce income taxes and fund clean energy. Canada distributes the proceeds to households to maintain purchasing power (OECD, 2021). China is gradually building a carbon market while strengthening the digitization of its reporting system (*World Bank*, 2023).

These lessons emphasize three keys to success: transparency in the use of tax funds, multi- stakeholder engagement, and long-term policy sustainability. Indonesia needs to adopt similar principles so that carbon taxes are not only effective in reducing emissions but also capable of increasing state revenue and accelerate the achievement of SDGs in a sustainable manner (Chotimah, 2017; Wulandari et al., 2024).

CONCLUSION AND SUGGESTION

Indonesia itself is still in the early stages of implementing a carbon tax, which currently only covers the coal-fired power generation sector with a rate of IDR30/kg CO_2e. The scheme for utilizing the funds from this tax has not been elaborated in detail, so its impact on society and on achievement sustainable development. Conversely, the experience of countries such as Sweden shows that a progressively applied carbon tax accompanied by clear fund allocation—for example, to support energy efficiency, environmentally friendly transportation, and renewable energy subventions—can significantly reduce emissions by more than 25% without hindering economic growth. Meanwhile, Canada, particularly the in the Province of British Columbia, implementing a revenue-neutral carbon tax model that returns all revenue to residents, has shown positive impacts on the neutral carbon tax model that returns all tax revenue to the public through income tax reductions and compensation to low-income households. Both countries prove that the success of carbon taxes does not only depend on the tariff rate or sector coverage,

but also on the design of a fair, transparent, and participatory fund redistribution. By adopting these principles, Indonesia has a great opportunity to strengthen the position of carbon tax as a fiscal instrument that supports social justice, clean energy transition, and the achievement of SDGs, particularly SDG 13, SDG 7, and SDG 17.

Implications and Limitations

This study shows that carbon tax has dual potential as a fiscal instrument and a tool for achieving sustainable development. Theoretically, the results of this study reinforce understanding that taxation policy can be directly linked to SDG targets, especially in the context of climate change control and energy transition. Practically, these findings provide important input for policymakers in designing a reliable emissions reporting system, strengthening institutional coordination, and ensuring the transparent use of tax revenues to finance green programs.

However, this study has several limitations. The study is entirely based on secondary data, so it does not reflect empirical dynamics such as taxpayer compliance or the effectiveness of supervision in the field. Furthermore, carbon tax revenue projections are estimates and do not yet consider the impact of tax burden distribution on specific community groups. Therefore, further research using quantitative approaches or field studies is needed to deepen the analysis and support the formulation of policies that are more inclusive.

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