

Analysis of the Implementation of Carbon Tax Regulations in Indonesia in Achieving Green Economy Targets and Reducing Greenhouse Gas Emissions

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ABSTRACT

This research examines the implementation of law regulation related to carbon tax within the framework of achieving green economy targets and controlling greenhouse gas emissions in Indonesia. In this qualitative normative juridical research and literature review, this study analysed the regulation of a carbon tax which includes barriers to implementation and public policy instruments. It is found that Indonesia already has a solid legal basis for carbon taxation as regulated under Law Number 7 of 2021 and Presidential Regulation Number 98 of 2021. While there are still a few implementations going on, these efforts are limited by institutional fragmentation.

INTRODUCTION

Climate change is one of the biggest challenges facing the world today. It affects environmental sustainability, economic stability, and social well-being. Rising greenhouse gas (GHG) emissions from industrialization, fossil fuel use, and harmful economic activities have sped up global warming and environmental harm. In response, many countries have put in place environmental tax policies to lower carbon emissions and promote a sustainable economic shift. A key tool in these efforts is the carbon tax. This tax aims to account for the environmental costs of activities that produce a lot of carbon and encourage low-carbon development (Pratama et al., 2022). Carbon taxes are increasingly seen as an effective way to meet emission reduction goals while also helping the move toward a greener economy.

Indonesia is a country that is still developing. It has a lot of carbon emissions. This means Indonesia has to do something about the climate problem. Indonesia has said it will reduce the things it sends into the air. Indonesia made a promise to do this through something called the Nationally Determined Contribution, which's part of the Paris Agreement. Indonesia wants to have zero emissions by 2060. To make this happen the government of Indonesia made a rule about carbon tax. This rule is part of Law Number 7 of 2021 which's about making tax rules work together. The government also made Presidential Regulation Number 98 of 2021 which's about using carbon economic value. This rule helps the government control emissions and price carbon in Indonesia as said by Solahudin in 2025. These new rules show that the government of Indonesia wants to make sure the country is good for the environment and good for the economy, at the time. Indonesia is taking these steps to fulfill its climate commitments and the carbon tax regulation is a big part of Indonesias plan to reduce greenhouse gas emissions.

The government of Indonesia has made a law about carbon tax. It is not working fully yet. The government has delayed putting this law into action times because of money problems industries are not ready and they are worried about the economy after the pandemic. This shows that there is a difference between making a law and actually putting it into practice. Many things are stopping the carbon tax from working like people relying much on fossil fuels industries are not prepared we do not have good systems to track carbon and people are worried that it will cost more to make things, which could hurt businesses (Sutedjo, 2025). So even though the law is there it is not being used properly. Is facing a lot of problems.

The problem of putting the law into action is very important because carbon tax laws affect parts of the economy especially industries that use a lot of energy. Business people think that carbon tax is a cost that could make it harder for them to make money. This is why the law is being delayed and not working well. Also Indonesias economy is very dependent on coal and fossil fuels, which makes it hard to switch to energy. Without the infrastructure, technology and incentives to use renewable energy people and businesses might resist the carbon tax.

On the hand carbon tax can really help Indonesia achieve its goals for a green economy. A green economy means growing the economy in a way that's good for the environment uses resources efficiently and does not rely too much on carbon. Carbon tax laws can encourage people and businesses to use technologies and rely less on fossil fuels (Rahmawati & Koerniawati 2025). Carbon tax can also encourage investments in energy speed up the switch to renewable energy and promote new sustainable technologies. So if carbon tax laws are put into action properly they can help balance growth and taking care of the environment.

From a point of view carbon taxes are a way to fix the problems caused by pollution. By taxing carbon emissions the government gives businesses a reason to reduce emissions and use energy efficiently. Studies have shown that putting a price on carbon really helps reduce emissions. Kohlscheen et al. (2024) Found that carbon pricing works to reduce CO₂ emissions in both the long term especially when combined with other environmental laws. This shows that carbon taxes can be a tool to fight climate change if they are used consistently and with good governance.

However putting carbon tax into action can also have economic effects that need to be carefully considered. Carbon tax can increase energy prices, production costs and prices for consumers, which could hurt peoples ability to buy things those with low incomes. Siregar (2025) showed that carbon tax in Indonesia could hurt low-income households if the government does not help them. So policymakers need to come up with ways to reduce these effects, such as subsidies, social programs and putting the tax into action slowly while still taking care of the environment.

In addition to social problems there are also institutional and governance challenges that affect carbon tax in Indonesia. The systems for tracking carbon reporting emissions and managing money are not well developed. Firmansyah (2025) said that Indonesia still has trouble combining its systems with environmental reporting, which leads to weak policy coordination and ineffective implementation. Also different government institutions, private businesses and environmental groups do not work together enough. These institutional weaknesses can stop Indonesia from achieving its goals to reduce emissions and make carbon tax less effective.

Based on these problems this study wants to look at how carbon tax laws are working to achieve green economy goals and reduce greenhouse gas emissions in Indonesia. This research is important because even though the law for carbon tax is in place it is still facing challenges. By looking at the law the problems with putting it into action and its potential effects this study hopes to give insights into how carbon tax laws can support sustainable economic development and fight climate change, in Indonesia.

LITERATURE REVIEW

Carbon Tax and Green Economy

The carbon tax is something that a lot of people think is an idea because it helps us move to a green economy. This is done by encouraging people to make and use things in a way that's good for the environment. When we put a carbon

tax in place it gives companies a reason to use fossil fuel be more energy efficient and use cleaner technologies.

According to Hardini and Rosdiana who wrote about this in 2025 carbon tax policies in Indonesia are very important for reducing the things we release into the air and for making sure everyone is treated fairly when it comes to the environment. Hardini and Rosdiana also said that carbon tax policies help our economy in a way that's good for the environment. Halizah and Furqon, who wrote about this in 2024 said that carbon tax policies can help our economy grow in a way by getting more people to invest in green things and by helping companies use less carbon.

But for the carbon tax to really work and help us have an economy the government needs to be consistent with its policies have the right institutions in place and make sure the rules are enforced properly. The carbon tax needs all these things to be successful, in promoting an economy and helping the carbon tax to really make a difference.

Implementation Challenges of Carbon Tax Policy

Indonesia has made a law about carbon taxation. This law is called Law Number 7 of 2021 concerning Harmonization of Tax Regulations. The problem is that this law is not being used as much as it should be. There are reasons for this. Sutedjo did some research in 2025. Found out that there are a few big problems. One of the problems is that the industries in Indonesia are not ready for this law. Indonesia also still uses a lot of coal for energy. The systems for checking carbon are not very good. Some people are worried that this new law will hurt the industries in Indonesia. Some other researchers looked at all the information. Found out some more problems. They found out that the law does not cover all the areas it should. The price of carbon is also not high enough. The government departments are not working together very well. All these problems show that Indonesia is having trouble making the carbon tax law work. The carbon tax law is an idea but it is not being used correctly. Indonesia needs to fix these problems so that the carbon tax law can really work. This will help Indonesia with its carbon tax governance. The main issue is that the government made a law but it is not being used This is a problem for Indonesia and its carbon tax governance. Indonesia needs to make sure that the law is being used correctly. This will help with the carbon tax. Make Indonesia better at taking care of the environment. The carbon tax law is very important, for Indonesia. Indonesia needs to make sure it is working correctly.

Carbon Tax and Greenhouse Gas Emission Reduction

Carbon taxation is supposed to help reduce the things we put into the air by making it more expensive to do things that are bad for the environment. When we look at what happens we can see that making companies pay for the bad things they put into the air really does help reduce the amount of bad things they put out. Some people named Kohlscheen and others found out in 2024 that making companies pay for the things they put into the air really does work to reduce the bad things they put out and this happens in many countries. In Indonesia some people named Pratama and others said in 2022 that if Indonesia

starts making companies pay for the things they put into the air the country can make more money and also reduce the bad things that companies put out especially in industries that use a lot of energy. So carbon taxation can be a way to help the environment if the government really supports it and makes sure everything is fair and transparent and that is what carbon taxation is all about it is, about reducing the bad things we put into the air and making carbon taxation work.

Socioeconomic Impacts of Carbon Tax

Carbon taxation is good for the environment. It can also have big effects on people and businesses. It can be especially tough on people who do not have a lot of money and on industries that use a lot of energy. A study by Siregar in 2025 found that when Indonesia put a tax on carbon it hurt lower-income households more because they had to pay more for energy and things they need. This is because lower-income households spend a part of their money on these things. Other studies have also shown that if carbon taxation is not done correctly it can make things unfair for some people and they might not want to follow the rules. So governments need to make sure they are helping the people who are hurt by carbon taxation. They can do this by giving them money to help pay for things or by starting the tax so it does not hurt as much. Carbon taxation policies need to be fair. Governments need to make sure people are okay with them. Governments should use things, like targeted subsidies and social protection programs to help people. They should also implement carbon tax policies gradually. This way carbon taxation can help the environment without hurting people much.

Institutional Readiness and Carbon Governance

Institutional readiness plays a role in how well a carbon tax works in developing countries. For carbon governance to be effective we need systems that report emissions clearly mechanisms that account for carbon in a way and coordination between government institutions and private stakeholders. Firmansyah in 2025 pointed out that Indonesia still has challenges in combining environmental accounting systems with its fiscal governance. Many developing countries face problems like governance, not enough administrative capacity and poor policy coordination when implementing carbon pricing. Without making institutions stronger and regulations synchronized carbon tax policies might not achieve their goals, for the environment and economy.

Comparative Carbon Tax Policies in Developed Countries

Many countries have already put a tax on carbon and Indonesia can learn from them. Sweden is an example of a country that has done this well. They were able to reduce the amount of things they put into the air like CO₂ without hurting their economy. Andersson found out in 2019 that Swedens carbon tax helped a lot to reduce the things that cars and other vehicles put into the air. British Columbia in Canada also showed that putting a tax on carbon can really help reduce the things that vehicles put into the air as long as the government makes sure everyone follows the rules and has good policies in place like Pretis said in

2022. These examples show that carbon tax can be a way to help the environment if the government is ready does it slowly and commits to it for a long time. Carbon tax can really work if it is done with readiness, gradual implementation and long-term governmental commitment, to carbon tax.

Carbon Pricing Policy Design and Global Implementation

Recent studies show that carbon tax works well only if it is designed properly and the money collected is used wisely. Nesje and others in 2025 said that for carbon pricing to work people must accept it the money collected must be used openly for causes and it must be part of a bigger plan to fight climate change. In countries governments use the money from carbon tax to help move to renewable energy build green infrastructure and give aid to households that need it most. Also countries that work together well and have policies tend to get better results for the environment when they use carbon pricing. These findings are important for Indonesia because delays and lack of coordination between government parts are hurdles, to making carbon tax work effectively.

Comparative Lessons from Singapore, Finland, and Sweden

Comparative studies on carbon taxation in Singapore, Finland and Sweden show that these policies are usually introduced slowly. This gradual approach aims to reduce disruption and help industries adapt. Singapore applies carbon tax. Offers incentives for industrial transition and low-carbon technology development programs. Finland and Sweden have shown that consistent long-term policies and strong environmental governance are key to carbon pricing. According to Nurhayati et al. (2024) Indonesia can learn from these countries. Indonesia can use implementation strategies strengthen institutions and support industrial transition. The study also noted that Indonesias low carbon tax rate and delayed implementation may reduce the policys effectiveness in achieving zero emission targets. Indonesias carbon taxation policy should be designed to support its zero emission goals. The countrys industrial transition and low-carbon technology development are crucial for achieving these targets. Singapore, Finland and Swedens experiences with carbon taxation can provide lessons for Indonesia. Carbon taxation policies must be implemented carefully to minimize disruption. Indonesia can benefit from an approach to carbon taxation. The countrys carbon tax rate and implementation timeline are factors, in achieving its emission targets.

Socioeconomic and Political Challenges of Carbon Tax Policies

International literature shows that carbon taxation is still a topic because of its possible effects on society and economy. Studies on how thingsre spread out say that carbon taxes might hurt low-income families more because they will have to pay more for energy and transportation if theres no help given. Linden et al. (2026) Said that many countries face opposition to carbon taxation because people worry about unfairness and rising prices. As a result governments often mix carbon tax policies with reforms to subsidies help for those who need it and slow introduction to keep things stable and acceptable to the public. These international experiences are very relevant for Indonesia, where worries, about

getting the economy on track, industries being competitive and peoples well-being keep delaying a wider carbon tax implementation.

METHODOLOGY

Research Method

This study used a research approach to look at how well carbon tax regulations are working in Indonesia to help the country achieve its goals for a green economy and reduce greenhouse gas emissions. The researchers chose this approach because they wanted to understand the laws and policies related to carbon taxation how they are implemented and the challenges that come with them.

According to Creswell and Creswell who wrote about this in 2023 qualitative research is a way to explore complex policy issues how institutions behave and how regulations are implemented especially when it comes to social and environmental issues.

The researchers looked at the laws and regulations related to carbon taxation in Indonesia including Law Number 7 of 2021 and Presidential Regulation Number 98 of 2021. They wanted to see how well these laws and regulations support the goal of sustainability. They also looked at what other countriesre doing to see how Indonesias carbon tax implementation compares.

The data for this study came from things like articles government reports and books that were written about carbon taxation, green economy and greenhouse gas emission reduction. The researchers chose these sources because they were relevant, credible and easy to access and they wanted to make sure the information they used was reliable.

Most of the sources they used were published between 2022 and 2025 so the information is current. The researchers collected the data by looking at documents and doing a review of the literature. They used keywords like "carbon tax implementation" and "green economy" to find the sources.

They then categorized the information they found and looked for themes and patterns. The researchers used qualitative analysis to make sense of the data. They looked for things like barriers to implementation how well the regulations are working and how they are affecting the economy and the environment.

They also wanted to see how carbon taxation policies are related to the goal of an economy and reducing greenhouse gas emissions. To make sure their findings were valid the researchers compared information from sources, like laws, academic articles and government reports.

This approach helped them get an understanding of the opportunities and challenges of implementing carbon tax regulations in Indonesia and how it fits into the bigger picture of sustainable economic development and climate change mitigation. The study focused on carbon tax regulations and their impact on Indonesias economy and greenhouse gas emission reduction goals.

The researchers looked at carbon tax regulations. How they are working in Indonesia. They wanted to understand the challenges and opportunities of implementing carbon tax regulations. The study is about carbon tax regulations and their role in achieving an economy and reducing greenhouse gas emissions in Indonesia.

The goal of the study was to provide insights into the implementation of carbon tax regulations in Indonesia. The researchers used a research approach to look at carbon tax regulations and their impact on the environment and the economy. The study is, about carbon tax regulations. How they are working in Indonesia to achieve a green economy and reduce greenhouse gas emissions.

RESEARCH RESULT

Regulatory Framework of Carbon Tax Implementation in Indonesia

The results show that Indonesia has made a lot of progress in creating laws about carbon tax and the value of carbon in the economy. Indonesia made a law Law Number 7 of 2021 that combines all the tax rules and includes carbon tax as a way to help the environment. Then Indonesia made Presidential Regulation Number 98 of 2021 which made the rules stronger by saying how carbon value works how carbon trading can happen and how to reduce emissions. These laws show that the government of Indonesia really wants to reduce the amount of greenhouse gases and help the country become an economy.

Even though Indonesia has these laws it is not doing a very good job of actually using the carbon tax policies. Indonesia was going to start carbon tax in power plants that use coal. It kept putting it off. The results show that there is a problem in Indonesia with getting the laws to work in real life. This means that even though the laws are ready the country is not really prepared to make them work because the institutions, economy and industries are not ready, for carbon tax. Indonesia needs to work on this so that it can really use carbon tax to help the environment.

Table 1. Carbon Tax Regulatory Framework in Indonesia

Regulation	Main Substance	Implementation Status
Law Number 7 of 2021 on Harmonization of Tax Regulations	Establishes carbon tax as an environmental fiscal instrument	Legally enacted but not fully implemented
Presidential Regulation Number 98 of 2021	Regulates carbon economic value and carbon trading mechanisms	Partially implemented
Nationally Determined Contribution (NDC) Commitment	Targets greenhouse gas emission reduction	Ongoing policy commitment
Net Zero Emission 2060 Target	Long-term climate mitigation strategy	Policy planning stage

The findings suggest that Indonesia has demonstrated strong normative commitment toward climate mitigation policies; however, operational implementation still faces major obstacles that reduce policy effectiveness.

Institutional and Economic Barriers to Carbon Tax Implementation

The study found that one of the problems with putting a carbon tax in place in Indonesia is that the country really relies on fossil fuels, especially coal.

Indonesia gets most of its electricity from coal, which means that industries will be heavily affected by the increased costs that come with a carbon tax. This is why many industries think that a carbon tax will be bad for business and make it harder for them to compete especially when it comes to exporting goods.

In addition the government is not really ready to implement a carbon tax. The study showed that there are problems with tracking carbon emissions counting carbon and getting government agencies to work together. Many government institutions that deal with the environment, money and energy are still not working well together because they have systems and overlapping authority. This is slowing down the process of getting everyone on the page and making it harder to actually put a carbon tax in place. Indonesias carbon tax implementation is being held back by these issues and the countrys carbon tax is still not moving forward. The carbon tax, in Indonesia needs to be implemented to avoid hurting industries that rely on coal and to make sure the government is ready to track and manage carbon emissions.

Table 2. Main Obstacles to Carbon Tax Implementation in Indonesia

Obstacle	Description	Impact on Policy Implementation
Dependence on Fossil Fuels	High reliance on coal and fossil energy	Resistance from industrial sectors
Industrial Readiness	Limited adoption of green technology	Delayed implementation
Weak Carbon Monitoring System	Limited integration of emission reporting systems	Difficulty measuring taxable emissions
Institutional Fragmentation	Weak coordination among government agencies	Policy inefficiency
Economic Recovery Concerns	Fear of inflation and declining competitiveness	Policy postponement
Public Awareness	Limited understanding of carbon tax benefits	Low public acceptance

The findings demonstrate that carbon tax implementation is not merely a legal issue but also involves broader economic, institutional, and social dimensions that require comprehensive policy integration.

Carbon Tax and Green Economy Transition

The results show that carbon taxation can really help Indonesia move towards an economy. Carbon tax policies make industries want to use energy efficiently cut down on production processes that produce a lot of carbon and use renewable energy technologies. Some industries have already started working on plans to be more sustainable and report on their impact because they think carbon pricing will be implemented soon.

Carbon taxation is also likely to encourage people to invest in things and help industries come up with new sustainable ideas. Investors are now looking for industries that're good for the environment, which gives companies a reason to improve their sustainability. So carbon taxation is not a way for the

government to collect money but it also sends a signal to industries that they should be working towards a low-carbon economy in the long term. This is what carbon taxation is about helping Indonesia have a green economy and making sure that carbon taxation plays a big role, in this transition towards a green economy with the help of carbon taxation.



Figure 1. Relationship Between Carbon Tax and Green Economy Transition

The findings suggest that effective carbon tax implementation could become a strategic instrument for integrating economic development with environmental sustainability objectives.

Impacts on Greenhouse Gas Emission Reduction

The study found that taxing carbon can help reduce greenhouse gas emissions in Indonesia a lot. When industries have to pay more for activities that produce a lot of carbon they try to reduce emissions and work efficiently. Many international studies have shown that putting a price on carbon is a way to lower CO₂ emissions if its done consistently and with rules to protect the environment.

The study also said that Indonesia might not reach its goal of reducing emissions if it keeps delaying the carbon tax. If there are no rules to enforce the tax and industries don't comply it will be hard to reduce emissions. Even though the laws are already in place the delays make it unclear if Indonesia can meet its climate promises under the Paris Agreement and its own targets, for reducing emissions.

Table 3. Potential Impacts of Carbon Tax on Emission Reduction

Policy Aspect	Expected Outcome	Current Condition
Carbon pricing	Reduction in carbon-intensive activities	Limited implementation
Industrial efficiency	Lower energy consumption	Partial adaptation
Renewable energy transition	Increased clean energy usage	Slow transition
National emission targets	Reduction in greenhouse gas emissions	Targets at risk due to delays
Environmental governance	Improved sustainability compliance	Institutional weaknesses remain

These findings indicate that carbon tax policies possess significant environmental potential; however, implementation effectiveness depends heavily on institutional readiness, industrial adaptation, and consistent governmental commitment.

Socioeconomic Implications of Carbon Tax Policy

The study results show that carbon tax can have effects on low-income families and communities that rely heavily on energy. When energy prices go up because of carbon tax it can also increase transportation costs, production costs and prices of goods. This means lower-income groups may suffer more if there are no plans to protect them.

However the study also found that these bad impacts can be reduced if carbon tax is implemented slowly and if subsidies are given to those who need them and if there are incentives for energy and if there are policies to compensate people who are affected. So it is crucial to balance goals with social stability to make sure people accept and support carbon tax in Indonesia. The findings also show that Indonesia has a legal basis for carbon tax but there are still many challenges to implementing it such as problems with governance, policy coordination, industry readiness and social issues. If these issues are not addressed carbon tax policies may not be effective, in achieving green economy goals and reducing greenhouse gas emissions.

DISCUSSION

The study on Indonesias carbon tax shows that the country has made a start with its laws. Indonesia has a law called Law Number 7 of 2021 concerning Harmonization of Tax Regulations and Presidential Regulation Number 98 of 2021 concerning Carbon Economic Value Implementation. These laws show that the Indonesian government is serious about reducing greenhouse gas emissions and supporting an economy. However the study also found that having laws is not enough to make sure the carbon tax policy works. There is a gap between what the laws say and how they are actually carried out. This is a challenge for Indonesias carbon tax governance.

One of the findings is that the carbon tax policy in Indonesia is not being implemented as quickly as it should be. This is because the government is trying to balance goals with economic and industrial interests. The government is worried about how the carbon tax will affect the economy during a time of economic recovery. This is consistent with what Sutedjo said in 2025 that Indonesias carbon tax policy is limited by the countrys dependence on fuels and the fact that industries are not ready to switch to low-carbon production. The study also found that Indonesias reliance on coal-based energy is a reason why the carbon tax is not being implemented quickly. Coal is still a source of energy for Indonesia and introducing a carbon tax would increase costs for industries that use a lot of fossil fuels. This is making businesses resistant to the carbon tax as they are worried it will hurt their competitiveness and profits.

Another issue is that Indonesias institutions are not ready to handle the carbon tax. Effective carbon taxation needs a system for tracking carbon emissions, transparent reporting and coordination between different government institutions. However the study found that Indonesias environmental governance is fragmented and there is not integration between fiscal policy institutions and environmental monitoring agencies. The study also found that public awareness and acceptance of the carbon tax are low. Many people do not understand the benefits of the carbon tax. Are worried about how it will affect their daily lives. They are concerned that the carbon tax will increase energy prices, transportation costs and commodity prices. This is especially true for low-income households that are already struggling financially.

Despite these challenges the study shows that carbon taxation has the potential to support green economy development in Indonesia. Carbon taxes can encourage industries to use energy efficiently adopt renewable energy technologies and invest in sustainable production systems. In the term this can lead to green innovation increased green investment and sustainable industrial transformation. The study also found that carbon tax policies can help reduce greenhouse gas emissions if they are implemented consistently and supported by environmental regulations. Carbon pricing mechanisms make it more expensive for industries to engage in carbon- activities, which encourages them to reduce emissions and adopt cleaner technologies.

Overall the study shows that Indonesias carbon tax policy is a step in the direction but its implementation is being held back by economic, institutional and social challenges. The government needs to balance goals with economic stability, institutional readiness and social justice considerations if it wants the carbon tax to be successful. Carbon tax implementation in Indonesia requires more than laws. It needs comprehensive policy integration, strong coordination between government institutions, private sectors and environmental stakeholders and public participation. The government also needs to improve readiness by expanding renewable energy infrastructure strengthening carbon reporting systems and providing fiscal incentives for green investment. If these things are not done the carbon tax will not have an impact on reducing emissions. Indonesias carbon tax policy shows that the country is committed to reducing greenhouse gas emissions and supporting an economy. However the

implementation of the policy is being held back by challenges. The government needs to address these challenges if it wants to make sure the carbon tax is successful. The carbon tax policy in Indonesia is a start but it needs to be supported by strong institutions, public awareness and economic incentives if it is going to make a real difference.

The carbon tax policy in Indonesia is an issue that requires a nuanced approach. The government needs to consider the institutional and social implications of the policy and make sure that it is implemented in a way that is fair, effective and sustainable. The study on Indonesias carbon tax policy provides insights into what needs to be done to make sure the policy is successful and it highlights the importance of comprehensive policy integration, strong coordination and public participation. Overall the study on Indonesias carbon tax policy is a contribution to the discussion on how to reduce greenhouse gas emissions and support a green economy. The carbon tax policy in Indonesia has the potential to make a difference but it needs to be implemented in a way that is carefully considered and comprehensive. The government needs to take a long-term view and make sure that the policy is supported by institutions, public awareness and economic incentives.

CONCLUSIONS

This study concludes that Indonesia has demonstrated a strong normative commitment to climate change mitigation through the establishment of carbon tax regulations under Law Number 7 of 2021 concerning Harmonization of Tax Regulations and Presidential Regulation Number 98 of 2021 concerning Carbon Economic Value Implementation. These regulations indicate the government's intention to integrate environmental sustainability into national fiscal policy and support the transition toward a green economy.

However, the findings reveal that the implementation of carbon taxation in Indonesia has not yet been fully operational despite the existence of a formal legal framework. Several obstacles continue to hinder policy implementation, including dependence on fossil fuel energy, limited industrial readiness, weak carbon accounting and monitoring systems, fragmented institutional coordination, and concerns regarding socioeconomic impacts. These barriers demonstrate that the effectiveness of carbon tax policies depends not only on legal regulation but also on institutional capacity, economic readiness, and public acceptance.

The study further finds that carbon taxation has substantial potential to contribute to greenhouse gas emission reduction, renewable energy transition, and sustainable economic transformation. Nevertheless, delayed implementation may weaken Indonesia's ability to achieve national emission reduction targets and long-term climate commitments. Therefore, comprehensive policy integration and strong governmental commitment are essential to ensure the successful implementation of carbon taxation in Indonesia.

RECOMMENDATIONS

Based on the findings, this study recommends that the Indonesian government strengthen institutional coordination among fiscal, environmental,

and energy-related agencies to improve the effectiveness of carbon tax implementation. The government should also develop integrated carbon accounting and emission reporting systems to support transparent carbon governance and accurate emission measurement.

In addition, gradual implementation strategies accompanied by fiscal incentives, renewable energy support, and green industrial transformation programs are necessary to reduce industrial resistance and improve economic readiness. Social protection mechanisms, including targeted subsidies and compensation programs for vulnerable households, should also be implemented to minimize the regressive socioeconomic impacts of carbon taxation.

Furthermore, increasing public awareness regarding the environmental and economic benefits of carbon taxation is essential to strengthen public acceptance and participation.

ADVANCED RESEARCH

Future research is recommended to examine the quantitative economic impacts of carbon taxation across industrial sectors and evaluate the effectiveness of carbon pricing mechanisms in achieving Indonesia's net-zero emission targets.

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