

## Legal Construction of The Green Economy in Environmental Management in The Era of Climate Change

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**Abstract:** *Climate change is an urgent global challenge requiring innovative approaches to environmental management. One such approach that is gaining traction is the green economy, which integrates economic growth with ecological sustainability. This research aims to analyze the legal construction of the green economy in the context of environmental management in Indonesia, particularly in addressing the impacts of climate change. This study employs a normative legal research method with legislative and conceptual approaches, exploring national regulations such as Law No. 32 of 2009 on Environmental Protection and Management, as well as policies related to a low-carbon economy, including carbon taxes and renewable energy incentives. The findings indicate that although relevant regulations exist, their implementation still needs to be improved, such as the lack of economic incentives for businesses to transition to environmentally friendly practices and weak law enforcement. Within the framework of the green economy, there is a need to strengthen legal instruments that promote innovation, investment, and cross-sector cooperation. This study recommends further integration of environmental and economic policies through a progressive legal approach, which emphasizes not only the mitigation of climate change impacts but also the protection of the rights of vulnerable communities and ecological justice. Thus, the legal construction of the green economy can become a key pillar in building sustainable environmental management in the era of climate change.*

**Key Words:** green economy; climate change; environmental law; environmental management.

### Introduction

Climate change has become a critical global challenge, significantly impacting the environment, ecosystems, and human life. The latest report from the Intergovernmental Panel on Climate Change (IPCC) shows that global warming, currently averaging 1.1°C above pre-industrial levels, has led to more frequent and intense extreme weather events such as storms, floods, and droughts (Seneviratne et al., 2021). This warming is largely driven by human activities, especially the increasing greenhouse gas emissions. Without immediate and comprehensive action, a temperature rise of 1.5°C or more is likely, worsening social and ecological vulnerabilities worldwide. In 2023, several climate change indicators reached new records, including record-high global sea surface temperatures and a doubling of the rate of sea-level rise over the past decade (Ripple et al., 2023). Ice melt in Antarctica and Greenland also reached alarming levels, making it one of the worst years for ice loss in modern history (Fountain & White, 2021). These developments highlight the urgent need for climate change mitigation, including adopting green economy approaches to reduce environmental impacts and promote sustainable development.

Green economy is increasingly recognized as a vital solution for environmental management, especially amid the pressures of climate change threatening global sustainability. It integrates economic growth with environmental protection, aiming to reduce greenhouse gas emissions, improve resource efficiency, and support inclusive, equitable development. Green economy seeks to balance economic growth with ecosystem preservation. Defined by the United Nations Environment Programme (UNEP), a green economy generates human well-being and social equality while reducing environmental risks and ecological scarcity (Al-Taai, 2021). The core idea is to decouple economic growth from environmental degradation through efficient resource use and ecosystem protection. Key principles of the green economy include environmental sustainability, social inclusivity, and equitable economic growth. This aligns with the sustainable development concept from the 1987 Brundtland Report, which emphasizes meeting current needs without compromising future generations' ability to meet their own needs (Dănescu et al., 2021). Green economy strengthens this by focusing on cleaner economic practices, including energy efficiency, renewable energy, and sustainable waste management (Mikhno et al., 2021).

The green economy has become a crucial agenda in climate change mitigation, as reflected in the 2015 Paris Agreement, which sets the target to keep global temperatures below 2°C, with efforts to limit it to 1.5°C (Gomez-Echeverri, 2018). This approach integrates economic growth with environmental protection, reducing carbon emissions, promoting renewable energy, and supporting sustainable development. Countries are committed to reducing the impacts of climate change through the transformation of consumption and production patterns, as well as investment in clean energy and green infrastructure. For Indonesia, the implementation of the green economy is essential to preserving biodiversity and mitigating the impacts of climate change, such as deforestation and ecosystem degradation. Indonesia has committed under its Nationally Determined Contributions (NDC) to reduce carbon emissions by 29% by 2030, with a target of 41% if international support is provided (Abi Suroso et al., 2022). Strategic measures such as the ratification of the Paris Agreement, the National Energy General Plan (RUEN), and the FOLU Net Sink 2030 program support these efforts (Setiawati & Imamah, 2023). However, significant challenges such as weak environmental law enforcement and the lack of incentives for green business practices still hinder the development of the green economy in Indonesia. Therefore, it is crucial to strengthen regulations and harmonize cross-sectoral policies, as well as create a legal system that supports the transition to a green economy, ensuring public participation in decision-making related to environmental matters.

The research problem in this study encompasses three key points. First, how is the legal construction of a green economy in Indonesia? Second, what are the challenges in implementing green economy laws? Moreover, third, what are the legal recommendations to support environmental management? The objective of this research is to analyze the legal framework of the green economy in Indonesia and evaluate how far regulations support sustainability principles according to global standards. This study also aims to identify implementation barriers, such as the need for cross-sector coordination and weak enforcement of environmental laws. Finally, this research will formulate legal

recommendations based on sustainability and ecological justice, which include strengthening regulations, providing incentives for green economy practices, and enhancing public participation in environmental management.

## **Method**

The research method used in this scholarly work is a normative legal approach, focusing on the analysis of regulations governing the green economy in environmental management in the era of climate change. This approach aims to assess and evaluate the existing regulations and their implementation within the applicable legal framework (Yanova et al., 2023). The primary data sources used in this study are regulations related to the green economy and environmental management, such as laws, government regulations, and relevant regional regulations. In addition, secondary data sources are also used to enrich the analysis, including legal literature, scholarly journals, and policy reports that can provide deeper insights into the implementation of the green economy in Indonesia. In this study, a conceptual approach is applied to analyze the fundamental principles of green economy law, such as sustainability, carbon emission reduction, and the protection of the environment and natural resources. The legislative approach is used to evaluate existing regulations and identify potential weaknesses or gaps in the regulation and implementation of green economy policies. This approach is expected to achieve a comprehensive understanding of the legal construction of the green economy in the context of environmental management in Indonesia.

## **Results and Discussion**

### **Legal Framework and Comparison of Green Economy Practices**

The legal framework for the green economy in Indonesia plays a crucial role in supporting efforts for sustainable environmental management, particularly in the face of the increasingly urgent challenges posed by climate change. Green economy law integrates sustainability principles across all economic aspects, with the goal of reducing negative environmental impacts while still promoting economic growth (Ali et al., 2021). In Indonesia, this legal framework is reflected in several national regulations that govern various sectors, such as environmental protection, natural resource management, and climate change mitigation policies. One of the key regulations that serves as the legal foundation for the green economy is Law No. 32 of 2009 on Environmental Protection and Management, which addresses pollution control, natural resource conservation, and the role of society in environmental preservation. This law provides the legal basis for environmental management, including measures to reduce greenhouse gas emissions and promote the use of renewable energy. Additionally, a carbon tax policy has been implemented to incentivize companies and industries to switch to environmentally friendly technologies. This policy is expected to reduce carbon emissions and encourage businesses to take more responsibility for the environmental impacts of their activities. Furthermore, Indonesia has developed incentive policies for renewable energy, governed by several regulations, such as Presidential Regulation No. 22 of 2017 on the National Energy General Plan, which promotes the use of

renewable energy as part of the strategy to reduce dependence on fossil energy sources. With these policies, Indonesia hopes to accelerate the transition to a more sustainable green economy that not only supports economic development but also provides environmental protection.

The analysis of green economy principles is crucial to understanding environmental management policies in Indonesia, which emphasize environmental sustainability, economic efficiency, and social welfare. Some key principles of the green economy in Indonesia include:

1. Carbon Emission Reduction and Clean Technology

Indonesia is committed to reducing carbon emissions through policies such as Law No. 32 of 2009 and carbon tax. The carbon tax aims to mitigate the industrial impact on the climate and encourage the use of clean technology.

2. Sustainable Natural Resource Management

The management of natural resources in Indonesia is regulated by Law No. 41 of 1999 on Forestry to ensure its sustainability. However, implementation is often hindered by weak supervision and illegal practices. Strengthening regulations and transparency is necessary to achieve sustainable resource management.

3. Social Justice and Community Welfare

The green economy must also consider social impacts by improving the quality of life, reducing poverty, and creating sustainable employment. Policies such as Law No. 5 of 1990 involve the community in conservation management, although there are still disparities in the distribution of economic benefits.

4. Resource Efficiency

The principle of efficiency encourages reducing waste and optimizing resource use, including better energy management and waste reduction. The industrial sector is encouraged to adopt more efficient and environmentally friendly technologies.

Globally, green economy practices have rapidly developed as a response to climate change and environmental degradation. Indonesia, in its transition to a green economy, can learn from countries that have already implemented such policies. A comparison with international practices provides insights into the successes and challenges faced by other nations in integrating green economy principles into environmental and economic policies.

1. Green Economy Practices in the European Union (EU)

The EU launched the European Green Deal in 2019, aiming for net-zero greenhouse gas emissions by 2050 (Tsiropoulos et al., 2020). It focuses on renewable energy, emission reduction, and resource efficiency. The EU also has a carbon emissions trading system and stricter carbon tax policies. Countries like Germany and Denmark lead in renewable energy development. Indonesia could adopt similar policies to strengthen renewable energy incentives and create a carbon market.

2. Green Economy Practices in China

China has made significant strides in green economy policies despite being a major emitter. The 13th Five-Year Plan (2016-2020) focused on carbon emission reduction, renewable energy use, and energy efficiency (Fang et al., 2020). China is also a leader in green technologies, such as renewable energy and electric vehicles. Indonesia could

benefit from China's policies by supporting green tech innovations and providing incentives for private sector investment in low-carbon technologies.

### 3. Green Economy Practices in the United States (US)

Under President Joe Biden, the US rejoined the Paris Agreement and prioritized carbon emission reduction, renewable energy investment, and green infrastructure. States like California have adopted strict emissions reduction policies and carbon markets (Xu & Hobbs, 2021). Indonesia can use these practices as a reference to strengthen national climate policies and accelerate the transition to renewable energy, especially in the transportation sector.

### 4. Comparison with Indonesia

While Indonesia has adopted policies aligned with green economy principles, countries like the EU, China, and the US have more integrated and comprehensive approaches. These countries have involved multiple economic sectors, implemented strong regulations, and provided incentives for a green transition. In contrast, Indonesia still faces challenges, including dependence on fossil fuels, inefficient natural resource management, and weak environmental policy enforcement.

From this comparison with international practices, it can be concluded that while Indonesia has taken steps towards a green economy, there are still many aspects that need to be improved to achieve optimal results. Strengthening regulations, improving institutional frameworks, and more effective implementation on the ground will be key to Indonesia's success in environmental management and its transition to a green economy in the era of climate change. Adopting best practices from countries that have made greater progress in green economy policies, such as carbon tax policies, renewable energy incentives, and sustainable natural resource management, could be an important step to accelerate the transition to a more environmentally friendly economy in Indonesia.

## **Challenges in the Implementation of Green Economy Principles**

Implementing green economy principles in Indonesia's environmental management faces significant challenges, particularly the need for economic incentives for businesses transitioning to eco-friendly practices. Despite regulations supporting the green transition, such as renewable energy policies and carbon taxes, businesses, especially small and medium-sized enterprises (SMEs), find the costs of adopting green practices too high compared to short-term economic benefits (Sommer, 2017). Many still rely on non-environmentally friendly resources and short-term profit-oriented production. Existing regulations often need to provide more incentives for private sector transformation. For example, while carbon taxes are in place, the rates are too low to significantly influence industrial behavior. A lack of fiscal incentives, such as subsidies or green financing, also discourages the private sector from adopting green technologies (Ozili, 2022). To address this, the public sector must play a key role by offering stronger financial incentives, such as green financing, tax credits for eco-friendly technologies, and tax reductions for companies meeting environmental standards. These measures would ease the financial burden on businesses and foster a more conducive environment for green investments. Additionally, raising awareness about the long-term

benefits of adopting green practices, such as cost savings, improved company image, and access to global markets, is essential to encourage businesses to make the transition.

The implementation of green economy principles in environmental management in Indonesia faces significant challenges due to weak law enforcement and poor inter-sectoral coordination. Although regulations supporting green economy principles, such as the Environmental Protection and Management Act, carbon tax policies, and renewable energy incentives, are in place, their enforcement could be more effective (Pourkarimi & Hojjat, 2019). This is due to inconsistent law enforcement and a lack of synergy between government agencies, which leads to confusion and difficulty in adapting to green economy practices. The lack of coordination between ministries, such as the Ministry of Energy and Mineral Resources (ESDM) and the Ministry of Environment and Forestry (KLHK), results in conflicting policies that hinder effective implementation. Additionally, weak enforcement of environmental violations, like air pollution or improper waste management, discourages businesses from adopting environmentally friendly practices (Salim & Palullungan, 2021). To address these challenges, there is a need for stronger and more coordinated law enforcement. This includes enhancing regulatory oversight, harmonizing policies across sectors, and ensuring consistent application of environmental laws. A transparent, participatory monitoring system involving the public and private sectors should also be strengthened to effectively implement green economy principles in the long term (Katherina et al., 2023).

The implementation of green economy principles in Indonesia faces significant social, economic, and political barriers. Socially, there needs to be more public awareness of the importance of transitioning to a green economy. Many people prioritize short-term economic needs, such as job creation and increased welfare, over long-term environmental impacts due to a lack of education and information on the relationship between economic activities and climate change (Tol, 2018). Economically, the transition requires significant investment in green technologies and infrastructure, but these sectors are often seen as costly and not prioritized in economic policies. Many businesses, especially in heavy industry and energy, continue to rely on cheaper, outdated technologies.

Additionally, access to affordable green financing for small and medium-sized enterprises remains a challenge. Politically, government policies are often influenced by short-term economic and political interests, favoring extractive industries like mining and plantations, which harm the environment (Ordonez, 2023). Political pressure from powerful industry groups slows the shift toward more environmentally friendly policies, and political instability leads to inconsistent policy changes. To overcome these challenges, a more integrated approach is needed, including greater public awareness of the long-term benefits of a green economy, stronger financial incentives for green investments, and political consensus supporting green policies. Educating the public, shifting harmful sectors toward sustainable practices, and ensuring political stability in green policies are essential for a successful transition to a green economy (Wibowo, 2023).

## **Legal Recommendations for a Sustainable Green Economy**

Legal recommendations for creating a sustainable green economy in Indonesia include strengthening incentives for green investment, such as tax incentives, reductions in import duties for environmentally friendly products, and support for renewable energy. Fiscal policies supporting green investment and financial access for SMEs, such as low-interest green loans or subsidies for environmentally friendly technologies (Aliano et al., 2024), are also crucial. Additionally, the establishment of institutions to monitor the environmental impact of investment projects and strengthening regulations on transparency will enhance public and investor confidence in the green economy.

Legal recommendations for fostering a sustainable green economy include strengthening regulations that promote public-private collaboration in developing green investment ecosystems. Cooperation between the government and private sector in green infrastructure projects, such as sustainable transportation, waste management, and renewable energy development, is essential for scaling up and ensuring the sustainability of green projects. The government should also provide greater support in terms of land provision, permits, and infrastructure development for green investments (Guild, 2020). It is also crucial to encourage public participation in green investments through education and socialization. By raising awareness of the importance of green investments, public participation can support government policies related to environmental protection. This will help build a collective awareness that drives broader participation in sustainable development efforts.

In addition, legal harmonization across sectors is vital to avoid regulatory overlap or contradictions between industries such as natural resources, energy, transportation, and the environment. Strengthening coordination between ministries involved in environmental and climate change issues, such as the Ministry of Environment and Forestry (KLHK), the Ministry of Energy and Mineral Resources (ESDM), and the Ministry of Industry, will ensure that sectoral policies align with green economy goals. Finally, effective monitoring and enforcement of green policies are essential for their success. Establishing a dedicated body to oversee the implementation of green economy regulations and enforce compliance will ensure the effectiveness of these policies.

The protection of the rights of vulnerable communities in environmental policies is crucial for achieving a sustainable green economy (Elliott & Setyowati, 2020). Vulnerable communities, such as the poor, indigenous peoples, and those living in disaster-prone areas, are often the most impacted by environmental degradation and climate change. Therefore, green economy policies must actively involve these communities in the planning and implementation of environmental policies while ensuring their rights are protected (Sari, 2023). Legal recommendations for protecting vulnerable communities include strengthening the principle of social justice in green economy policies, such as paying particular attention to vulnerable groups in terms of access to natural resources, protection from environmental harm, and participation in decision-making processes. Additionally, regulations should respect the land and resource rights of indigenous and local communities and ensure their participation in natural resource management. Policies should also provide fair and inclusive

dispute resolution mechanisms and enhance legal access for communities affected by environmental policies. Strengthening the capacity of institutions such as NGOs and civil society organizations is also essential to educate and assist communities in actively participating in policy-making processes (Irawan, 2023). Lastly, economic sustainability for vulnerable communities can be promoted by providing equitable access to environmentally friendly technologies and resources that support the green economy, such as renewable energy programs in remote areas and the development of green economy-based MSMEs.

## Conclusion

The conclusion of this research emphasizes that the legal construction of the green economy in environmental management in the era of climate change plays a critical role in achieving sustainable development goals. Green economy law not only functions to regulate and encourage economic growth but also to protect the environment and natural resources, which are increasingly threatened by the impacts of climate change. The effective implementation of green economy principles requires the integration of environmental protection policies, the use of renewable energy, and more responsible natural resource management. However, despite the existence of various regulations supporting the green economy, such as environmental laws and carbon tax policies, these regulations still need to be strengthened and implemented more effectively. Implementation barriers, such as the need for economic incentives for businesses, weak law enforcement, and social, economic, and political challenges, hinder the achievement of sustainable green economy objectives. Therefore, to ensure better environmental management, existing regulations must be reinforced through cross-sectoral harmonization, strengthening green investment incentives, and protecting the rights of vulnerable communities. Overall, the success of the green economy legal framework depends on the synergy between clear and firm regulations, consistent law enforcement, and support from various sectors, including the government, business actors, and society. Only with an inclusive and sustainable approach can the green economy be realized, addressing climate change challenges and creating a more environmentally friendly and prosperous future for all communities.

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