



Green Economic Transformation Toward Competitive and Inclusive Sustainable Development in the SME Sector

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Info Article Received: 02 Mei 2026 Revised: 01 Juni 2026 Accepted: 03 Juli 2026 Publication: 31 Juli 2026	Abstract: <i>Green economic transformation has become a strategic approach to supporting sustainable development, particularly in the Micro, Small, and Medium Enterprises (MSMEs) sector. This concept emphasizes resource efficiency, emission reduction, and the enhancement of business competitiveness through sustainable practices. This study aims to analyze the role of green economic transformation in promoting competitive and inclusive development among MSMEs in Indonesia. The research employed a qualitative descriptive approach using a literature review of secondary data obtained from journals, scientific articles, and previous studies published between 2018 and 2025. The findings indicate that the implementation of the green economy contributes to improved productivity, innovation, and business quality among MSMEs. However, its implementation continues to face challenges, including limited environmental literacy, technological constraints, inadequate access to green financing, and insufficient business assistance. Therefore, greater support through practical training, green financing schemes, and collaboration among government, academia, and business actors is essential to accelerate a sustainable green economic transformation.</i>
Keywords: Green Economy Transformation, MSMEs, Sustainable Development, Competitiveness, Inclusive Development Kata Kunci: Transformasi Ekonomi Hijau, UMKM, Pembangunan Berkelanjutan, Daya Saing, Pembangunan Inklusif	Abstrak Transformasi ekonomi hijau menjadi pendekatan strategis dalam mendukung pembangunan berkelanjutan, khususnya pada sektor Usaha Mikro, Kecil, dan Menengah (UMKM). Konsep ini berfokus pada efisiensi sumber daya, pengurangan emisi, serta peningkatan daya saing usaha yang berorientasi pada keberlanjutan. Penelitian ini bertujuan menganalisis peran transformasi ekonomi hijau dalam mendukung pembangunan UMKM yang berdaya saing dan inklusif di Indonesia. Metode yang digunakan adalah penelitian deskriptif kualitatif melalui studi literatur dengan memanfaatkan berbagai sumber sekunder berupa jurnal, artikel ilmiah, dan penelitian terdahulu periode 2018–2025. Hasil kajian menunjukkan bahwa penerapan ekonomi hijau berkontribusi terhadap peningkatan produktivitas, inovasi, dan kualitas usaha UMKM. Namun, implementasinya masih menghadapi kendala berupa rendahnya literasi lingkungan, keterbatasan teknologi, akses pembiayaan, dan pendampingan usaha. Oleh karena itu, diperlukan dukungan pelatihan, pembiayaan hijau, serta kolaborasi antara pemerintah, akademisi, dan pelaku usaha untuk mempercepat transformasi ekonomi hijau yang berkelanjutan.
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INTRODUCTION

Over the past few decades, social and environmental factors have increasingly influenced economic growth. Sustainable economic growth has become a primary goal in addressing today's global challenges. One of the most important strategies for achieving this goal is through competitiveness and inclusivity (Heriyono *et al.*, 2024). Under current circumstances, the transition to a green economy is a crucial step toward supporting sustainable development. A green economy emphasizes resource efficiency, carbon emission reduction, and improved public welfare (Ammar *et al.*, 2024). This research is important for assessing the extent to which this concept can be applied in Indonesia, given that the country's diverse geographical, demographic, and economic conditions will influence the success of its implementation in improving public welfare.

This study focuses on the green economic transition as an effort to integrate energy efficiency, reduce emissions, and improve environmental quality in production and consumption processes. Understanding the various barriers to implementing a green economy can help formulate effective strategies to balance economic growth, social cohesion, and environmental conservation (Maharani, 2025). This transformation is driving change across various sectors, making them more effective, flexible, and capable of adapting to environmental challenges. Growing public awareness of sustainability is creating opportunities for green SMEs to lead the way in generating economic benefits while protecting the environment (Buwono, 2025). It is important to pay attention to MSMEs because of their role in the local economy and the workforce, even though they face challenges related to technology, operational mechanisms, and market access.

The green economic transition is not limited to technology and regulations; it also encompasses public policy, market dynamics, business readiness, and social responsibility. The concept of a green economy is one solution to today's challenges because it can drive economic growth while delivering broader benefits to society and the environment (Iswahyuni & Sari, 2025). For MSMEs, this preparedness enhances their ability to understand standards, evaluate financing options, improve production processes, and align with business models. By efficiently utilizing natural resources, adopting environmentally friendly technologies, and engaging the community in an inclusive manner, sustainable development aims to improve the quality of life for all members of society (Judijanto & Al-Amin, 2024). Therefore, the green economy is a systemic strategy that must be adopted by all economic actors, including SMEs.

The competitiveness aspect drives increased productivity and efficiency in addressing issues, while the inclusivity dimension ensures that the benefits of development are fully realized. Therefore, an economic development model is needed that not only focuses on profit but also takes into account environmental balance and social conditions (Kusuma *et al.*, 2022). In the context of MSMEs, inclusivity refers to improvements in employment-related activities, market access, and business capacity. This underscores the critical need for inclusive sustainable development so that all members of society have equal opportunities to access the resources needed to improve their lives (Rohmah *et al.*, 2025). However, uneven sustainable development can lead to disparities in the quality of human resource development across regions in Indonesia.

The term “green economic transformation” refers to a series of policies and systemic changes aimed at improving environmental quality and reducing negative economic impacts on ecosystems. The development of a green economy still faces various challenges in its implementation toward sustainable development and in fostering public understanding of the concept of a green economy. Many businesses and members of the public still opt for conventional approaches because they are considered easier to implement and less costly, without considering the long-term impacts on the environment (Firdaus *et al.*, 2025). Essentially, a green economy is an economic system that takes environmental considerations into account in every economic activity, from production to consumption. The goal is to reduce negative impacts on the environment while promoting sustainable and inclusive economic growth (Malau, 2024). For MSMEs, the support mentioned above must be translated into concrete actions through research, financing, access to information, and supply chain partnerships.

The relationship between the green economy and inclusive development is crucial because the two are closely intertwined. The green economy can boost productivity, product quality, and innovation to enhance competitiveness. However, this transition also requires teamwork and skills development to ensure that SMEs do not face obstacles. This transformation will be more effective if implemented carefully and systematically, especially when SMEs are positioned as the primary focus, not merely as the objects of policy. One step that can support this is through the implementation of a green economy that is closely linked to inclusive development (Tsiwiyati, 2024). A green economy can boost productivity and product quality, as well as drive innovation, thereby enhancing the competitiveness of businesses, particularly SMEs.

In addition, the transition to a green economy also encourages greater cooperation and skills development so that MSMEs can adapt to these changes. Therefore, the green economic transformation must be implemented in a focused and sustainable manner, with MSMEs at the center of the development process, so that the benefits can be felt more widely and equitably. The two complement each other in the effort to create a prosperous, just, and sustainable society (Nurhakiki & Ivanka, 2025). Therefore, collaboration between the government, the private sector, and the public is essential to support the realization of an effective and sustainable green economy.

Previous research on the green economy has generally focused more on macroeconomic decision-making and general project development. In contrast, research examining the role of MSMEs in driving an inclusive green economic transformation remains scarce. Furthermore, some previous studies have focused more on environmental aspects without linking them to increased competitiveness and MSMEs. Given this situation, this study aims to analyze how green economic transformation can be implemented in an inclusive and progressive manner through support for SMEs. It is hoped that this study can contribute to the development of strategies and policies that are better aligned with the conditions of SMEs in Indonesia.

METHOD

This study employs a qualitative descriptive approach through a literature review. The literature review involves collecting and analyzing secondary data from relevant previous studies, specifically to identify relationships or trends among variables. The research focus is directed toward green economic transformation in the MSME sector, particularly in relation to enhancing competitiveness and fostering more inclusive development; thus, the study is not tied to specific individuals or locations but rather to findings from various scientific publications such as journals and research articles.

The data in this study are sourced from fifteen relevant articles and journals from Google Scholar spanning 2018–2025. Data collection was conducted through a literature review, which involved identifying topics and then extracting relevant data from each study. The analysis was conducted by thoroughly reading and reviewing the literature, filtering important information, grouping data based on the themes of the green economy, competitiveness, and inclusivity, then comparing them to identify patterns or similarities, and formulating the results in the form of clear descriptions and conclusions based on the findings obtained.

RESULT AND DISCUSSION

Result

Based on a literature review of several previous studies, the green economic transformation highlights its impact on sustainability, competitiveness, and inclusive development, particularly in the MSME sector. The data obtained from this analysis is based on the level of green economic implementation, its contribution to inclusive development, and the factors influencing the success of the green economic transformation.

Table 1. Previous Studies

Researcher	Researcher Focus	Researcher Findings
(Masdar <i>et al.</i> , 2022)	The Implementation of the Green Economy in Indonesia	Nearly 100% of national strategic sectors have been incorporated into the green economy framework, yet more than 50% of its implementation still focuses on non-economic instruments and regulations.
(Ghouse <i>et al.</i> , 2022)	Green economy and inclusive development	Green energy contributes 60% to inclusive development in high-income countries, 42% in middle-income countries, and 10% in low-income countries
(Yadav <i>et al.</i> , 2018)	The Contribution of SMEs to the Environment	About 60–70% of SMEs contribute significantly to global environmental impact.
(Yadav <i>et al.</i> , 2018)	Factors contributing to the green economic transition	External factors account for 55–60% of the influence, internal factors account for 40–45%.

The study's findings indicate that the implementation of a green economy in Indonesia has had a significant impact on all of the country's strategic sectors, including energy, transportation, industry, agriculture, waste management, water, and construction. However, since more than 50% of its implementation still relies on non-economic instruments such as government policies and regulations, it remains dominated by regulatory measures (Masdar *et al.*, 2022). In addition, research conducted by (Ghouse *et al.*, 2022) shows that the green economy contributes to inclusive development and that women's labor contributions to inclusive development are determined by a number of factors, including economic growth, income equality, access to clean energy, improvements in people's quality of life, and increased job satisfaction. The study's findings indicate that women's contribution to inclusive development reaches approximately 60% in developed countries, 42% in middle-income countries, and about 10% in developing countries. The contribution in developed countries is influenced by technological advancements, government policies, investment capacity, and a higher level of public awareness regarding environmental sustainability compared to developing countries.

According to a study conducted by (Yadav et al., 2018), Approximately 60–70% of SMEs make a significant contribution to global environmental impacts. This indicates that SMEs play a crucial role in driving the success of the green economic transition. Furthermore, external factors have a greater influence on the green economic transformation in SMEs than internal factors. Internal factors include organizational culture, management commitment, and the ability to protect the environment, while external factors include government regulations, market practices, consumer behavior, and business networks. Based on the findings mentioned above, the green economic transformation requires internal restructuring, capacity building for SMEs, and policy support to achieve sustainable and inclusive development.

However, the study's findings indicate that the implementation of the green economy in Indonesia remains largely administrative and focused on regulatory compliance, and thus has not yet fully transformed the operations of MSMEs. Given the need for investment, changes in production processes, and adherence to standard business practices, MSMEs remain a key factor in the development of the green economy, posing an additional challenge. In this context, the transition to a green economy risks becoming difficult due to the lack of tangible economic incentives and sustained support.

The author argues that the success of the green economic transformation is influenced not only by government policies but also by entrepreneurs' efforts to create a business environment capable of adapting to future developments. On the other hand, a lack of environmental literacy and limited access to technology prevent many SMEs from effectively integrating green economy principles into their production processes. Therefore, the green economic transformation must focus not only on the environment but also on the social and economic conditions of SMEs so that the transition process can proceed in a realistic and inclusive manner.

In addition, there has been a growing body of prior research on MSMEs as a policy focus that serves as a key driver of the green economic transition. Furthermore, the active participation of MSMEs is crucial because this sector has a significant impact on the national economy and workforce development. Therefore, the green economic transition must focus on enhancing business capacity, fostering product innovation, and creating a business ecosystem that supports long-term success.

Research findings indicate that the success of the green economic transformation does not depend solely on government policies. It also depends on the ability of

MSMEs to adapt to market changes and meet the demand for more environmentally friendly business practices. The concept of a green economy relates to development projects that emphasize the interdependence of economic growth, social cohesion, and environmental conservation. In practice, the implementation of a green economy in SMEs can help improve production efficiency and boost sales through the development of more environmentally friendly products. However, previous studies have focused more on the economy in general and have not sufficiently highlighted the role of SMEs in carrying out this transformation. Furthermore, research on the relationship between the green economy and aspects of inclusivity and social cohesion remains inadequate, necessitating a more in-depth study of the role of SMEs in driving future development in Indonesia.

The situation in Indonesia shows that MSMEs play a very significant role in driving the country's economy. According to data from the Ministry of Cooperatives and SMEs, the number of MSMEs in Indonesia exceeds 65 million, contributing more than 60% to the national GDP and employing nearly 97% of the workforce. These figures demonstrate that the success of the green economic transition is also influenced by SMEs' efforts to adopt more environmentally friendly and sustainable business practices.

The Indonesian government has begun promoting the development of a green economy through various policies, such as the construction of carbon-neutral buildings, the goal of achieving Net Zero Emissions by 2060, the development of renewable energy, and the development of a circular economy. However, its implementation still faces several challenges, such as a lack of environmental awareness among business owners, limited technological advancements, limited access to financing, and a lack of support for SMEs. Furthermore, the green economic transformation in Indonesia currently focuses more on government regulations and policies than on business actors. Many SMEs are still reluctant to follow environmental standards due to limitations in capital, technology, and knowledge. To make green economic development more effective, inclusive, and sustainable, clearer support is needed, such as training, green financing assistance, business mentoring, and collaboration among business actors.

CONCLUSION

Based on a review of the literature, the green economic transformation plays a crucial role in enhancing competitiveness and inclusive development in the SME sector

through improved production efficiency, product innovation, and market demand. However, its implementation in Indonesia still faces a number of challenges, such as a lack of environmental literacy, limited technological advancement, financing difficulties, and low levels of business development. The outcomes of green economic transformation are influenced by internal factors, such as the commitment and readiness of SMEs, as well as external factors, such as government policies, market conditions, and access to technology. Therefore, various stakeholders need to collaborate to ensure the implementation of these factors becomes more effective and sustainable. This study contributes to highlighting the importance of SME efforts in promoting sustainable development, as well as the need for cooperation between the government, business owners, and the general public to create a more efficient and sustainable green economy.

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