

## Regulations and Implementation of the Green Economy in the Development of Green SMEs in North Sumatra Province

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**Abstract:** This research analyzes the regulation and implementation of a green economy in the MSME sector in North Sumatra Province in the context of the transition to green MSMEs and efforts to achieve the Sustainable Development Goals (SDGs). This study uses a combination of normative and empirical approaches with data collected through interviews, questionnaires, and literature studies. The findings indicate that North Sumatra Province has not specifically adopted and implemented a green economy for the MSME sector. In the North Sumatra Provincial RPJPD 2025-2045, the implementation of a green economy is still limited to the Green Industry. The absence of regulations, the lack of updates on the Regional Action Plan for TPB/SDGs, and the fragmented coordination among key stakeholders, who still do not have a structured collaboration framework, pose the main obstacles. SMEs in North Sumatra Province face various challenges in implementing a green economy, including high investment costs, limited access to resources, the absence of regulations and standards, and a lack of consumer awareness about eco-friendly products. This research recommends that the North Sumatra Provincial Government prioritize the integration of the SDGs into regional development policies, establish regulations that govern coordination among stakeholders, and enhance government and stakeholder support for the green transformation of SMEs through improved access to resources, training, and policy support.

**Keywords:** Green Economy; Sustainable Development; Green SMEs.

### Introduction

The existence of the term green economy, which is only reflected in the form of a Ministerial Decree, indicates a legal vacuum in Indonesia's regulatory system regarding the green economy. This suggests that although the concept of a green economy has been recognized as part of the national development direction (TPB/SDGs), its implementation still lacks a strong and binding legal foundation.<sup>1</sup> The absence of specific regulations governing the green economy can have implications for several things, namely the lack of a clear and legally binding definition of what is meant by the green economy in the context of Indonesia,<sup>2</sup> the absence of a comprehensive regulatory framework to govern the implementation, supervision, and evaluation of green economy practices,<sup>3</sup> and the absence of legal instruments that can compel and provide incentives for business actors to implement the principles of a green economy.<sup>4</sup>

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<sup>1</sup> Yulia Eva Hidayati, and Muhammad Isbad Addainuri. "Green Economy and Islamic Economy: Towards Accelerating SDGs." *Jurnal Manajemen Bisnis* 11.2 (2024): 1413-1430.

<sup>2</sup> Adam Bintang Danesa Wijaya, and Nuzuliah Kumala Sari. "Ekonomi Hijau Dalam Strukturasi Hukum Sebagai Upaya Pelestarian Lingkungan Hidup." *Lex Economica Journal* 1.2 (2023): 52-60.

<sup>3</sup> Susandi Decapriu Putra Pamungkas, Tasya Defana Belinda, and Pyaredika Majidah Izzati Ramadhani. "Transparansi Informasi Kebijakan Pengelolaan Limbah Industri Guna Mewujudkan Ekonomi Hijau Menuju Indonesia Emas 2045." *Jurnal Pemerintahan dan Kebijakan (JPK)* 6.2 (2025): 68-82.

<sup>4</sup> Berly Martawardaya, et al. "Green economy post COVID-19: insights from Indonesia." *Development in Practice* 32.1 (2022): 98-106.

Nevertheless, the strategy to realize the direction of the Low Carbon Development policy outlined in the National Action Plan for SDGs 2021-2024 only encompasses sustainable energy and transportation development, sustainable land restoration, waste management, development of a green industry, as well as low-carbon coastal and marine areas.<sup>5</sup> A strategy has not yet been developed to realize the direction of low-carbon development policies in the MSME sector, even though this sector should receive serious attention and long-term planning as it is a contributor to greenhouse gas emissions in Indonesia.<sup>6</sup>

Out of 38 provinces in Indonesia, this study focuses on North Sumatra Province. This research centers on the implementation of green economy practices in the business activities conducted by the MSME sector in North Sumatra Province as a step towards achieving the SDGs. As a follow-up to the achievement of the SDGs at the regional level, local governments are mandated by Presidential Regulation Number 59 of 2017 regarding the Implementation of Sustainable Development Goals, as amended by Presidential Regulation Number 111 of 2022 regarding the Implementation of Sustainable Development Goals. The Provincial Government of North Sumatra has formulated a Regional Action Plan for SDGs in accordance with North Sumatra Governor Regulation Number 22 of 2020 concerning the Regional Action Plan for SDGs in North Sumatra Province for the years 2019-2023, However, the regional regulation does not explain the concrete steps for addressing climate change as outlined in Goal 13 of the SDGs, including strategies to realize the policy direction of Low Carbon Development, particularly in the MSME sector at the local level. This illustrates that the follow-up to achieving the SDGs at the regional level is not in line with national targets.

Seeing the relationship between the MSME sector and greenhouse gas emissions, efforts to address climate change are a strategic step by implementing a green economy in the business practices of the MSME sector.<sup>7</sup> SMEs can be more efficient in using resources, reducing carbon emissions and waste, as well as enhancing the sustainability of their business.<sup>8</sup> This not only helps in environmental preservation but also can enhance the competitiveness and sustainability of MSMEs themselves in the long term.<sup>9</sup> The implementation of a green economy in the MSME sector is not only a good strategy for environmental protection but also a key to sustainable and inclusive economic growth.<sup>10</sup> This will help MSMEs to continue contributing significantly to the economy while ensuring that this growth does not harm the environment.<sup>11</sup> Furthermore, the green economy

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<sup>5</sup> Gindo Leontinus, "Program dalam pelaksanaan tujuan pembangunan berkelanjutan (SDGS) dalam hal masalah perubahan iklim di Indonesia." *Jurnal Samudra Geografi* 5.1 (2022): 43-52.

<sup>6</sup> Andri Yandi, Imam Mukhlis, and Arief Noviarakhman Zagladi. "Penerapan konsep green marketing dalam menghasilkan produk yang ramah lingkungan: sebuah kajian konseptual sebagai panduan bagi peneliti." *J-MAS (Jurnal Manajemen dan Sains)* 8.2 (2023): 1941-1954.

<sup>7</sup> Vivi Octavia Malau, "Perkembangan Ekonomi Hijau sebagai Upaya Mengatasi Perubahan Iklim." *Circle Archive* 1.5 (2024).

<sup>8</sup> Ristati, et al. "Pelatihan Pembiayaan Berkelanjutan (Sustainable Finance) untuk Mendorong Pertumbuhan Ekonomi Hijau di Kalangan UMKM." *SABAJAYA Jurnal Pengabdian Kepada Masyarakat* 3.2 (2025).

<sup>9</sup> Handi Wilujeng Nugroho, and Zakiyah Ulfa Aryani. "Perencanaan Pembangunan Provinsi Riau Dalam Kerangka Pembangunan Ekonomi Hijau Dan Berkelanjutan." *IPTEKIN Jurnal Kebijakan Pembangunan dan Inovasi* 7.1 (2024): 1-15.

<sup>10</sup> Afrida Rosa Marsela, and Nurma Fitrianna. "Pelaksanaan Prinsip Efisiensi Sumber Daya dalam Green Economy oleh UMKM Kuliner dan Dampaknya pada Lingkungan." *Inisiatif: Jurnal Ekonomi, Akuntansi dan Manajemen* 4.2 (2025): 162-173.

<sup>11</sup> Surya Yudha Regif, et al. "Literasi digital ekonomi hijau terhadap pemberdayaan UMKM desa di Kabupaten Langkat." *Jurnal Ilmu Politik dan Pemerintahan* 9.1 (2023).

is considered a major breakthrough that moves away from short-term economic practices and minimizes the occurrence of harmful environmental issues in the future.

This research is important as an effort to bridge the gap between government policies and the practical needs of SMEs in adopting a green economy. Through a comprehensive analysis of regulations applicable at both central and regional levels, as well as empirical studies of its implementation in the field, this research aims to identify the challenges, opportunities, and specific needs of SMEs in the transformation towards sustainable business practices. With a data-driven approach, this research produces more inclusive and effective policy recommendations to support the development of green SMEs in Indonesia. This is crucial given the vital role of SMEs in the national economy and their significant contribution to greenhouse gas emissions, thus the success of this sector's transformation will have a profound impact on achieving sustainable development targets and Indonesia's commitment to reducing greenhouse gas emissions. Furthermore, this research is expected to serve as a reference for stakeholders in formulating policies and programs that are more responsive to the needs of MSMEs, while also encouraging active participation from this sector in the transition towards an inclusive and sustainable green economy.

## Method

This research uses a combination of normative and empirical approaches. The normative approach is used to analyze regulations related to the green economy in the development of green SMEs. Meanwhile, the empirical approach is used to analyze the implementation of the green economy in the development of green SMEs conducted in North Sumatra Province. Data was collected through interviews, questionnaires, and literature studies. Interview data was obtained from informants, namely stakeholders from the Regional Development Planning, Research and Development Agency of North Sumatra Province as a Regional Device Organization (OPD) that plays a role in drafting the SDGs/TPB Regional Action Plan and the Regional Low Carbon Development Plan (RPRKD); the Cooperative, Small and Medium Enterprises Service of North Sumatra Province as an OPD that plays a role in the field of cooperatives, small and medium enterprises that are under the authority of the Provincial Region; The SDGs Center of North Sumatra University, which is a higher education institution that serves as a center of excellence in partnership with the government, particularly local governments and regional stakeholders in the implementation of TPB/SDGs; and Bank Indonesia as the central bank, which has one of the efforts in carrying out the mandate of macroprudential policy, especially in encouraging intermediation functions and enhancing financial access, specifically its role in the development of MSMEs. Furthermore, the theory of the legal role in economic growth is used as an analytical framework to evaluate structural challenges and policy needs in implementing a green economy.

## Results and Discussion

### Analysis of Regulations and Implementation of Green Economy in the MSME Sector in North Sumatra Province

The Indonesian economy has transformed into a knowledge and technology-based economy that produces high-value goods and services inclusively and sustainably.<sup>12</sup> To ensure the

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<sup>12</sup> Nina Rahayu, et al. "Pembangunan ekonomi Indonesia dengan tantangan transformasi digital." *ADI Bisnis Digital Interdisiplin Jurnal* 4.1 (2023): 1-4.

sustainability of high economic growth across generations, the concept of a green economy is implemented.<sup>13</sup> This is stated in Law Number 59 of 2024 concerning the National Long-Term Development Plan for 2025-2045 (hereinafter referred to as the Law on the National Long-Term Development Plan 2025-2045). The implementation of a green economy will ensure the availability of natural resources owned by Indonesia in the long term.<sup>14</sup> The application of the green economy in economic transformation aims to ensure high economic growth in line with improving environmental capacity and sustainability.<sup>15</sup> Implementing a green economy can also be a source of new growth through increased job opportunities, green investments, and the development of green products.<sup>16</sup>

In line with the national development plan, North Sumatra Province has outlined a long-term development direction that is specifically tailored for the region as stated in the Regulation of North Sumatra Province Number 6 of 2024 concerning the Long-Term Development Plan of North Sumatra Province for 2025-2045 (hereinafter referred to as the Regulation of the RPJPD of North Sumatra Province for 2025-2045). In its preparation process, the RPJPD of North Sumatra Province for 2025-2045 is guided by the National Long-Term Development Plan (RPJPN) for 2025-2045. The RPJPN for 2025-2045 contains the aspirations or grand dreams to realize Golden Indonesia, which is achieved by realizing the vision of the RPJPN as a 'Sovereign, Advanced, and Sustainable Archipelago Country.' In order to support the realization of the RPJPN Vision, the development vision of North Sumatra Province for 2025-2045 is "North Sumatra is Superior, Advanced, and Sustainable". The North Sumatra Provincial Government is also committed to carrying out sustainable development by integrating the content of the SDGs in accordance with the Presidential Regulation of the Republic of Indonesia Number 111 of 2022 regarding the Implementation of the Achievement of Sustainable Development Goals.

In the context of a green economy, based on interviews with the Planning, Research and Development Agency of North Sumatra Province (Bappelitbang Sumut) through Aryani Septenti Kartini (Junior Policy Analyst in the field of Economics and Natural Resources), it was found that:

1. Green economy has been recognized and established as part of the development direction (SDGs) in North Sumatra Province. This is stated in the Regional Regulation of North Sumatra Provincial RPJPD 2025-2045, that the implementation of the green economy is included in the economic transformation in North Sumatra Province as one of the missions to realize the vision of "North Sumatra that is Superior, Advanced, and Sustainable".
2. The direction of the green economy policy for the first phase from 2025-2029 includes: Development of policies and regulations that support the green economy; Enhancement of research and innovation related to green technology; Initial investment in renewable energy (EBT) projects; Education and socialization on the importance of the green economy; Implementation of environmentally friendly bioindustry practices and development of ecotourism.

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<sup>13</sup> Nida Khan, Kumarasamy Sudhakar, and Rizalman Mamat. "Role of biofuels in energy transition, green economy and carbon neutrality." *Sustainability* Vol. 13, No. 22 (2021). Mieczysław Adamowicz, "Green deal, green growth and green economy as a means of support for attaining the sustainable development goals." *Sustainability* 14.10 (2022).

<sup>14</sup> Suparjo Suparjo, et al. "Indonesia's new SDGs agenda for green growth: Emphasis in the energy sector." *International Journal of Energy Economics and Policy* 11.3 (2021): 395-402.

<sup>15</sup> Hamzah Hamzah, et al. "Sustainable Development of Mangrove Ecosystem Policy in South Sulawesi from the Perspectives of Siyāsah and Fiqh Al-Bi'ah." *Juris (Jurnal Ilmiah Syariah)* 22.2 (2023): 367-380.

<sup>16</sup> Ifan Muarif, "Implementasi Kebijakan Ekonomi Hijau Pada Pertumbuhan Ekonomi Dan Kesejahteraan Masyarakat." *Jurnal Akuntansi, Keuangan, Perpajakan dan Tata Kelola Perusahaan* 2.3 (2025): 961-967.

3. The main targets of the Provincial Medium-Term Development Plan (RPJPD) of North Sumatra for the years 2025-2045 include the direction for developing the implementation of a green economy through Green Industry (Exceptional Bioindustry), thus there is no direction yet for the development of green economy implementation in the MSME sector.
4. The Regional Long-Term Development Plan (RPJPD) of North Sumatra Province for the years 2025-2045 serves as a guideline in the preparation of the Regional Medium-Term Development Plan (RPJMD) for each 5-year period, particularly the direction of policies and main objectives of the RPJPD. The preparation of the RPJMD begins after the elected Regional Head is officially inaugurated.<sup>17</sup>

The results of the interview explained that the MSME sector has not become the target of green economy implementation in North Sumatra Province, even though the green economy has been recognized and adopted, it is not aimed at the MSME sector. The absence of regulations will create various implications (similar to the RPJPN 2025-2045), namely the lack of a clear and legally binding definition of what is meant by a green economy in the context of North Sumatra Province; the absence of a comprehensive regulatory framework to regulate the implementation, supervision, and evaluation of green economy practices; and the lack of legal instruments that can enforce and provide incentives to implement the principles of a green economy.

### **The Role of Stakeholders in Supporting the Green MSME Transformation in North Sumatra Province**

#### **1. Agency for Development Planning, Research and Development of North Sumatra Province**

Based on the results of the interview with the Bappelitbang of North Sumatra through Mrs. Aryani Septenti Kartini (Junior Policy Analyst in the field of Economics and Natural Resources), the information obtained is as follows:

The Bappelitbang of North Sumatra has not yet played a real role in supporting the transformation of Green MSMEs in North Sumatra Province. The absence of specific programs and policies for Green MSMEs from the Bappelitbang of North Sumatra reflects the regional development priorities that are still dominated by conventional economic approaches. The orientation towards short-term economic growth still seems to be the main focus, while the aspect of environmental sustainability has not yet been an integral consideration in the planning of MSME development. This also indicates that the understanding of the urgency and benefits of green transformation for the economy has not been fully grasped by the development planners at Bappelitbang of North Sumatra. Furthermore, there is still a lack of studies and research related to the potential of the green economy in the MSME sector in North Sumatra Province, which should serve as a basis for policy formulation.<sup>18</sup>

The absence of the role of Bappelitbang Sumatera Utara in the transformation of Green SMEs implies the lack of a clear roadmap on how the SME sector in North Sumatra Province can transform towards sustainable business practices. SMEs interested in adopting environmentally friendly practices do not receive strategic guidance or systemic support from the local government. This

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<sup>17</sup> Aryani Septenti Kartini, *Analisis Kebijakan Ahli Muda Bidang Ekonomi dan Sumber Daya Alam*, Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Provinsi Sumatera Utara (Bappelitbang Sumut), Interview, 5 Februari 2025.

<sup>18</sup> Aryani Septenti Kartini, *Analisis Kebijakan Ahli Muda Bidang Ekonomi dan Sumber Daya Alam*, Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Provinsi Sumatera Utara (Bappelitbang Sumut), Interview, 5 Februari 2025.

finding also reveals the weakness of the monitoring and evaluation system of the environmental impact of SME activities in North Sumatra Province.

This finding indicates a gap between the potential strategic role of Bappelitbang as a regional development planning institution and the implementation of real programs on the ground. Although the issues of green economy and environmental sustainability are increasingly prominent in the discourse of national and global development, Bappelitbang North Sumatra has not specifically integrated these concepts into the MSME development agenda in North Sumatra Province. This is reflected in the North Sumatra Provincial RPJPD 2025-2045, which has not made MSMEs a target/objective for the application of a green economy.

This condition illustrates the urgent need for policy reform and capacity building in the North Sumatra Bappelitbang. This agency needs to strengthen its internal understanding of the green economy, conduct a comprehensive study on the potential and challenges of Green SMEs, and integrate environmental sustainability aspects into strategic planning documents such as RPJPD, RPJMD, RKPD, RAD, and other documents. Strengthening the research and development functions in the North Sumatra Bappelitbang should focus on green economy issues and the potential for their application in the SME sector.

## 2. Office of Cooperatives and Small and Medium Enterprises of North Sumatra Province

The Cooperatives, Small and Medium Enterprises Office of North Sumatra Province has the task of assisting the Governor in organizing government affairs in the field of cooperatives, small and medium enterprises that are the authority of the Provincial Government. The Cooperatives, Small, and Medium Enterprises Office of North Sumatra (DiskopUKM Sumut) plays a central role in the ecosystem of MSME development in this region. As the leading sector that is directly responsible for MSME development, DiskopUKM Sumut has a strategic position to initiate and accelerate the transformation towards green MSMEs across the province. This role is increasingly crucial given the urgency of implementing sustainable business practices in response to the challenges of climate change and environmental degradation. Through its authority in regulation, facilitation, and development, DiskopUKM Sumut can be a major driver in creating an ecosystem that supports the growth of competitive and sustainable green MSMEs.

Based on the results of the interview with the Diskop UKM Sumut through Mrs. Desmawati Sihombing (Promotion Facilitator), it was obtained that:

The Cooperative and Small and Medium Enterprises Office of North Sumatra has demonstrated its commitment to supporting the transformation of Green SMEs through several coaching programs focused on the development of products based on natural resources. One form of tangible support is the coaching for SMEs that process natural raw materials such as coconut husks and coconut fronds into value-added products, namely handicrafts made from coconut husks into sandals, shoes, bags, and various other product variations (Cambia Craft SMEs). This program not only encourages the optimal utilization of natural resources but also helps SMEs increase the economic value of previously considered waste materials. This approach illustrates the efforts of the Cooperative and SMEs Office to synergize economic aspects with environmental preservation, even though it is still on a limited scale and has not yet maximized the potential of Green SMEs in North Sumatra.<sup>19</sup>

Although various efforts have been made, the DiskopUKM of North Sumatra is still facing several challenges in promoting the transformation of Green MSMEs. The main challenge comes

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<sup>19</sup> Desmawati Sihombing, Fasilitator Promosi Diskop UKM Sumatera Utara, Interview, 13 Februari 2025.

from regulatory aspects, as Government Regulation Number 7 of 2021 regarding Facilitation, Protection, and Empowerment of Cooperatives and Micro, Small, and Medium Enterprises does not yet have derivative regulations down to the local level in North Sumatra Province, such as Regional Regulations and Governor Regulations. This regulatory vacuum results in the absence of a clear legal umbrella for the Green MSME program, causing its implementation to remain partial and not systematic. From the MSME actors' perspective, the main challenge lies in marketing aspects.<sup>20</sup> Green products often face difficulties in penetrating the conventional market due to higher relative prices and limited consumer awareness.<sup>21</sup> This condition indicates the need for more innovative marketing strategies and more intensive consumer education efforts.

### 3. SDGs Center, University of North Sumatra

The Sustainable Development Goals (SDGs) Center of Universitas Sumatera Utara is a strategic institution that plays a role in the implementation of SDGs within the university environment. The SDGs Center is expected to become an excellence center in implementing the SDGs within the university. The SDGs Center of Universitas Sumatera Utara (USU) holds a strategic position in the ecosystem of sustainable development in North Sumatra Province. By combining multidisciplinary expertise available across various faculties, the SDGs Center at USU can become an important catalyst in creating a sustainable and environmentally competitive MSME ecosystem.

Based on the results of the interview with the SDGs Center USU through Mr. Wahyu Ario Pratomo (Head of the SDGs Center USU), the following information was obtained:

The SDGs Center of USU plays a role as a strategic partner for Bappelitbang in the preparation of regional development planning documents, both at the provincial and district/city levels. The main focus of this institution is to ensure that regional development planning aligns with the SDGs achievement targets. However, the interview results revealed that specific regulations concerning the implementation of a green economy for the MSME sector have not yet been included in the Regional Action Document of North Sumatra Province. This indicates that the role of the SDGs Center of USU in supporting the transformation of Green MSMEs is still limited to the conceptual stage and has not yet been formally integrated into regional planning documents.<sup>22</sup>

Furthermore, Wahyu Ario Pratomo explained that:

Although there is currently no program specifically aimed at transforming Green MSMEs, the SDGs Center of USU has initiated efforts that indirectly support sustainability aspects in the development of MSMEs. One example is the collaboration with the Research and Innovation Development Agency (BPRI) of USU and the Community Service Institute (LPPM) of USU in a community service program involving business actors. In 2024, support will be provided to a group of honey farmers in Langkat District who are facing difficulties in beekeeping. To address these challenges, the SDGs Center of USU is collaborating with a university in Terengganu, Malaysia, which has experience in training and advising honey farmers. This collaboration resulted in a training program that will be implemented in Langkat District, thereby increasing honey production from this group.<sup>23</sup>

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<sup>20</sup> Isnaini Harahap, Zuhri M. Nawawi, and Angga Syahputra. "Signifikansi Peranan Umkm Dalam Pembangunan Ekonomi Di Kota Medan Dalam Perspektif Syariah." *Jurnal Tabarru': Islamic Banking and Finance* 6.2 (2023): 718-728.

<sup>21</sup> Fachrurazi Fachrurazi, et al. "Increasing micro small medium enterprises activity entrepreneurial capacity in the field of digital marketing." *Jurnal Ekonomi* 11.03 (2022): 1653-1660.

<sup>22</sup> Wahyu Ario Pratomo, Kepala SDGs Center Universitas Sumatera Utara, Interview, 21 Januari 2025.

<sup>23</sup> Wahyu Ario Pratomo, Kepala SDGs Center Universitas Sumatera Utara, Interview, 21 Januari 2025.

As an academic institution mandated to support the achievement of the SDGs, the SDGs Center at USU is obligated to report its activities to Times Higher Education (THE) annually. THE will then assess and rank based on the contributions of universities to the achievement of the SDGs. This reporting and assessment mechanism can indeed serve as a driving force for the SDGs Center at USU to develop clearer and more systematic programs in support of the transformation of Green SMEs, considering that this aspect is highly relevant to several SDG goals such as SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action). By developing a more structured Green SME program, the SDGs Center at USU will not only contribute to sustainable development in North Sumatra Province but also potentially enhance USU's ranking in THE assessments.

#### 4. Bank Indonesia

Regarding the role of Bank Indonesia in promoting the transformation of green MSMEs in North Sumatra Province, based on an interview with Bank Indonesia representatives through Mr. Indra Kuspriyadi (Deputy Director of the Bank Indonesia Representative Office in North Sumatra Province), it was found that in 2022, through a good collaboration between Bank Indonesia and the International Trade Analysis and Policy Studies (ITAPS) of Bogor Agricultural University (IPB), a study was conducted on 'Business Model Development of Green MSMEs'. This study is an effort by Bank Indonesia to encourage MSMEs to transition into Green MSMEs, particularly for those MSMEs coached by Bank Indonesia, and it is hoped that it can be replicated in MSMEs partnered with Bank Indonesia, as well as those supported by Ministries/Institutions.<sup>24</sup>

In line with the national priority agenda towards a green economy and low-carbon development in the formulation of the National Medium-Term Development Plan (RPJMN) 2020-2024, Bank Indonesia responds to this policy direction by establishing the Green Policy Framework of Bank Indonesia. On the other hand, the demand and development of domestic and global market trends for environmentally friendly products are increasing. This requires all business actors, including MSMEs, to innovate and adapt by transforming their businesses and taking part in supporting a sustainable economy or green economy.<sup>25</sup>

From this research, a policy framework for the development of Green MSMEs by Bank Indonesia is produced as follows:

- a. The vision of the Green MSME Development Policy by BI is "Green MSMEs that Grow and Support a Sustainable Economy."
- b. The policy mission of BI's Green MSME Development is (1) to enhance the implementation of environmentally friendly and zero waste practices, (2) to promote the adoption of a circular economy, (3) to increase access to financing, and (4) to create a more efficient economy.
- c. The main pillars of the Green MSME Development Policy by BI are (1) the implementation of environmentally friendly practices, (2) the application of circular economy business value chains, and (3) green financial inclusion.

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<sup>24</sup> Indra Kuspriyadi, Deputi Direktur Kantor Perwakilan Bank Indonesia Provinsi Sumatera Utara, Interview, 13 Januari 2025.

<sup>25</sup> Indra Kuspriyadi, Deputi Direktur Kantor Perwakilan Bank Indonesia Provinsi Sumatera Utara, Interview, 13 Januari 2025.

- d. The pillars supporting this vision and mission are outlined in 4 policy strategies for the development of Green MSMEs by BI, namely (1) Business model development, (2) Replication, (3) Digitalization, (4) Reporting, and (5) Synergy and Coordination.
- e. The five basic principles that form the foundation of the policy strategy are (1) Sustainability, (2) Inclusiveness, (3) Innovation, (4) Efficiency, and (5) Empowerment.<sup>26</sup>

The BI Green SME business model is classified based on the green practices implemented in the value chain, by modifying the Koirala Green SME concept. The green practices carried out by BI SMEs are classified into 3 categories: (a) *Eco-adopter*,<sup>27</sup> (b) *Eco-entrepreneur* and (c) *Eco-innovator*.<sup>28</sup> Green MSMEs are assessed based on various green indicators that include aspects: (a) production, (b) marketing, (c) human resources, and (d) finance, according to their respective stages. The green indicators are mandatory and supplementary in practice.<sup>29</sup>

The implementation of green MSMEs in North Sumatra Province carried out by the North Sumatra Representative Office of Bank Indonesia (KPwBI Sumut) is that in 2024, training for Green MSMEs for the Sri Karya farmer group has been conducted, successfully elevating their level from Eco Adopter to Eco Entrepreneur by meeting the requirements, namely the preparation of financial reports through the Financial Information Recording Application System (SIAPIK). The farmer group has successfully created financial reports. In addition, the farmer group has also received capacity building to support other green indicators, such as optimizing digital marketing channels through the digital agriculture downstream at the platform [www.simitrasumut.com](http://www.simitrasumut.com) and implementing digital agriculture in the form of Internet of Things soil and weather sensors.<sup>30</sup>

Bank Indonesia has shown a proactive and strategic role in supporting the transformation of Green MSMEs in Indonesia, particularly in North Sumatra Province, by developing a comprehensive policy framework and implementing measurable programs. This approach, which combines environmental sustainability with economic development, demonstrates Bank Indonesia's seriousness in supporting the sustainable development agenda. Through training, mentoring, and technological support, Bank Indonesia encourages MSMEs in North Sumatra to adapt to the demands of a global market that increasingly emphasizes sustainable business practices.

### **Challenges of Coordination Among Stakeholders in Supporting the Transformation of Green SMEs in North Sumatra Province**

The transformation of Green MSMEs in North Sumatra Province faces several coordination challenges among stakeholders that need to be addressed to achieve optimal results. Based on the

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<sup>26</sup> Department of MSME Development and Consumer Protection of Bank Indonesia, *Study of Green MSME Development Business Model*, (Jakarta: Bank Indonesia, 2022), p. 390.

<sup>27</sup> A business model where MSMEs adopt environmentally friendly practices. Sustainability is not part of the core of the business model. See the Department of MSME Development and Consumer Protection of Bank Indonesia, *Study of Green MSME Development Business Models*, p. 52.

<sup>28</sup> A business model where MSME business actors as eco-entrepreneurs have carried out *eco-innovation* (both technological and non-technological), to improve production, production processes, marketing, organization, business practices, and external relations aimed at reducing environmental impacts. See the Department of MSME Development and Consumer Protection of Bank Indonesia, *Study of Green MSME Development Business Models*, p. 52.

<sup>29</sup> Indra Kuspriyadi, Deputy Direktur Kantor Perwakilan Bank Indonesia Provinsi Sumatera Utara, Interview, 13 Januari 2025.

<sup>30</sup> Indra Kuspriyadi, Deputy Direktur Kantor Perwakilan Bank Indonesia Provinsi Sumatera Utara, Interview, 13 Januari 2025.

analysis of the roles of stakeholders mentioned above, there are five main challenges that hinder synergy in supporting Green MSMEs, namely:

1. The absence of an integrated policy framework is a fundamental obstacle in coordination. The Bappelitbang of North Sumatra, which should integrate the concept of a green economy into regional strategic planning documents, has not yet fulfilled this role effectively. The 2025-2045 North Sumatra Provincial RPJPD has not made MSMEs a target for the implementation of the green economy. As a result, there is no roadmap that serves as a common reference for stakeholders such as DiskopUKM North Sumatra, the SDGs Center of USU, and Bank Indonesia in developing targeted Green MSME programs.
2. The gap in regional regulations hinders the implementation of systematic programs. The Cooperative and Small and Medium Enterprises Office of North Sumatra faces a significant challenge in the form of the absence of derivative regulations from Government Regulation No. 7 of 2021 on the Facilitation, Protection, and Empowerment of Cooperatives and SMEs at the provincial level of North Sumatra. This regulatory gap has caused the Green SMEs program to lack a clear legal framework, resulting in its implementation being still partial, even though Bank Indonesia has developed a comprehensive policy framework.
3. There has not yet been a standardized set of criteria and indicators for Green MSMEs that is mutually agreed upon by all stakeholders. Bank Indonesia has classified Green MSMEs into three categories (Eco-adopter, Eco-entrepreneur, and Eco-innovator) with indicators that include aspects of production, marketing, human resources, and finance. However, the SDGs Center at USU highlights the difficulty in finding appropriate measurement indicators for the reduction of greenhouse gas emissions in the MSME sector. This difference in approach makes it challenging to measure and evaluate the progress of the transformation of Green MSMEs comprehensively.
4. The weakness of the mechanism for sharing knowledge and best practices among stakeholders. Best practices such as the advancement of the Sri Karya Gapoktan from Eco-adopter to Eco-entrepreneur by Bank Indonesia, or the mentoring of honey farmers in Langkat Regency by the USU SDGs Center, have not been systematically replicated. The absence of a platform that facilitates the exchange of knowledge, technology, and experiences hinders the acceleration of the Green MSME transformation across North Sumatra Province.
5. The limited market access for green MSME products. The Cooperative and Small-Medium Enterprises Office of North Sumatra identified marketing constraints as the main challenge faced by green MSME players, where environmentally friendly products often struggle to penetrate conventional markets due to relatively higher prices and limited consumer awareness.

To address these coordination challenges, a multi-stakeholder coordination mechanism led by Bappelitbang Sumut needs to be established, involving all key stakeholders. This forum is tasked with developing a roadmap for Green MSMEs in North Sumatra Province, advocating for the development of supportive regional regulations, aligning criteria and indicators for Green MSMEs, building a knowledge-sharing platform, and developing integrated financing and marketing schemes.

Based on the theory of the role of law in economic development by Mochtar Kusumaatmadja, law is not only viewed as a guarantor of certainty and order but also as a means of societal renewal,

which is highly relevant in addressing the challenges of synergy among stakeholders for the transformation of green MSMEs in North Sumatra. In the context of the research findings, the application of this theory indicates the need to establish regulations as a development tool to govern coordination and collaboration among the four stakeholders who are currently implementing programs separately without any comprehensive communication. Law can play a strategic role starting from the planning stage by forming a permanent coordination forum and a joint roadmap, the implementation stage by regulating the division of roles and program alignment, and finally the control stage by ensuring that there is no overlap in policies that results in some MSMEs receiving various supports while others remain unachieved.<sup>31</sup> Thus, the transformation of Green MSMEs in North Sumatra Province can proceed in a directed manner and achieve the SDGs in the region through the implementation of a green economy in the MSME sector in North Sumatra Province.

### **Structural Barriers and the Need for Policy Support in Implementing a Green Economy**

Based on empirical research conducted on small and medium enterprises (SMEs) in North Sumatra Province, several significant challenges hindering the implementation of green economy practices have been revealed. The survey results indicate economic, technical, and structural barriers that require a comprehensive approach from various stakeholders. The largest constraint faced by SMEs in implementing green business practices is economic factors and infrastructure. The high cost of energy-efficient equipment is the main obstacle for 52.3% of respondents, followed by difficulties in obtaining eco-friendly packaging (49.2%), limited waste processing facilities (47.7%), and high prices of organic raw materials (43.1%). This data emphasizes that although there is a desire to implement green business practices, limited financial and technical resources pose significant constraints, especially for micro-enterprises that dominate the respondents (73.8%). In addition, 20% of respondents also identified the lack of knowledge about how to start green practices as a barrier, indicating a gap in technical capacity that needs to be bridged.

From the perspective of energy management practice, although 47.7% of respondents admitted to always recording energy usage, there are still 41.5% who do it sporadically and 10.8% who have never done it at all. This indicates that awareness of energy efficiency has not yet become a top priority in the operations of small and medium enterprises (SMEs). When asked about the equipment that consumes the most energy, respondents mentioned various production equipment such as mixers/blenders/processors, ovens, refrigerators, and gas stoves as the main contributors. However, survey data shows that many respondents claimed to have implemented energy-saving efforts in various ways, such as using LED lights, utilizing energy-efficient labeled electrical appliances, and scheduling the use of production equipment during specific hours.

Regarding the use of raw materials and packaging, attention to environmental aspects varies. In practice, some respondents admitted to still using preservatives, artificial sweeteners, colorings, or flavorings in some of their products. Meanwhile, the use of eco-friendly packaging is also not optimal, with 55.4% of respondents only using it for some products, 23.1% who have applied it across their entire product line, and 20% who have not used it at all. This indicates a trade-off between business considerations and sustainability values.

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<sup>31</sup> Yuwarman Mansur, "Strategi Pemberdayaan UMKM di Kabupaten Agam." *Jurnal EMT KITA* 8.3 (2024): 907-929. Adi Saifurrahman, and Salina Hj Kassim. "Regulatory issues inhibiting the financial inclusion: a case study among Islamic banks and MSMEs in Indonesia." *Qualitative Research in Financial Markets* 16.4 (2024): 589-617.

Expectations for the role of the government are very high, with 73.8% of respondents relying on clear regulations from the government to promote a green economy. The most anticipated policies include regulations on energy efficiency standards and production processes (73.8%), capacity-building programs such as waste management workshops or energy efficiency improvements (73.8%), as well as fiscal incentives (52.3%) and easy access to financing (40%). Respondents also suggested collaboration between the central and local governments to build relationships between SMEs implementing a green economy and corporations that have been certified in sustainable practices. These findings emphasize the importance of the government's role as a facilitator in the transition to a green economy, especially in bridging the knowledge and capacity gaps of SMEs.

The challenge of implementing a green economy in MSMEs in North Sumatra is also reflected in the still low special waste management systems, where only a small number of MSMEs have them in place. In fact, organic waste from leftover raw materials and packaging waste is the type of waste most frequently produced. This indicates a significant potential to develop a circular economy system within the MSME ecosystem in North Sumatra, where waste from one business can become input for another business. These challenges are interconnected and create a complex cycle of barriers for MSMEs in North Sumatra in adopting a green economy. With the right and comprehensive support, MSMEs in North Sumatra have the potential to become significant change agents in realizing an inclusive and sustainable green economy at the local level.

The theory of the role of law in economic development proposed by Jimly Asshiddiqie, as quoted by Zulfikfli, indicates a strong and sustainable link between law and economic development, in which law must be able to guarantee order and fair certainty for economic growth.<sup>32</sup> In the context of the challenges faced by MSMEs in North Sumatra Province to implement a green economy, this theory emphasizes the importance of creating a regulatory framework that is not burdensome for MSMEs but remains effective in encouraging green business practices. The role of law as an enabler is crucial to facilitate the transition of MSMEs towards a green economy, taking into account the limitations in capital, technology, and understanding possessed by MSMEs.<sup>33</sup> The regulations designed must provide concrete support in the form of specific financing schemes, technical assistance programs, and incentives that facilitate MSMEs in adopting sustainable business practices. Thus, the legal politics in Indonesia needs to be directed to encourage the achievement of sustainable economic growth through regulations that support the development of green MSMEs, so that the law does not become a challenge but rather an effective facilitator for the transformation of MSMEs in North Sumatra Province.

## Conclusion

The North Sumatra Province has not adopted and implemented a green economy for the MSME sector, which is currently only focused on Green Industry. The absence of this regulation has impacted the lack of a clear and legally binding definition of a green economy in North Sumatra

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<sup>32</sup> Zulkifli Zulkifli. "Indonesian Economic Democracy: Debates, Challenges And Opportunities." *Tatar Pasundan: Jurnal Diklat Keagamaan* 16.2 (2022): 190-204.

<sup>33</sup> Ashish Malik, et al. "Circular economy adoption by SMEs in emerging markets: Towards a multilevel conceptual framework." *Journal of business research* 142 (2022): 605-619. Hammed Afolabi, et al. "Exploration of small and medium entities' actions on sustainability practices and their implications for a greener economy." *Journal of Applied Accounting Research* 24.4 (2023): 655-681.

Province, the absence of a comprehensive regulatory framework for implementation, supervision, and evaluation, as well as the lack of legal instruments to encourage the implementation of green economy principles. This issue is exacerbated by the absence of an updated Regional Action Plan for the SDGs/TPB of North Sumatra Province, which was last established through Regional Regulation Number 22 of 2020 for the 2019-2023 period, while we are currently entering the year 2025. This legal void indicates a lack of commitment from the local government in achieving the SDGs/TPB, hinders cross-sectoral coordination, and causes a misallocation of resources for SDGs/TPB programs in the region.

The role of stakeholders in supporting the transformation of green SMEs in North Sumatra province faces fundamental challenges in the form of institutional fragmentation. The four main stakeholders, namely the North Sumatra Planning, Research and Development Agency (Bappelitbang), the Cooperatives and SMEs Service (DiskopUKM) of North Sumatra, the SDGs Center of the University of Sumatra Utara (USU), and Bank Indonesia, tend to operate with their own agendas and priorities without a structured framework for collaboration. Although these four institutions have programs that support SMEs, there is yet to be a specific coordination mechanism focusing on the agenda of green SME transformation. The collective impact generated is less optimal than the potential that should be achieved through coordinated efforts.

The challenges faced by MSMEs in North Sumatra Province in implementing a green economy in their business practices are: 1) high costs, transitioning to green technology, which can be a burden for MSMEs with limited resources; 2) limited access to resources, MSMEs may struggle to access the latest green technologies or resources for training and development due to funding and information constraints; 3) regulations and standard benchmarks regarding the green economy for the MSME sector are still lacking; 4) there is still a lack of consumer awareness or interest in environmentally friendly products and services, which limits market potential for sustainable MSMEs. For this reason, the development of Green MSMEs is not only the responsibility of business actors and the government alone, but requires collaboration and active participation from various stakeholders. Financial institutions, academics, non-governmental organizations, and the general public play an important role in creating a supportive ecosystem.

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