West Science Business and Management
Vol. 3, No. 03, September 2025, pp. 668~676

Green Finance Management as a Strategy to Address Sustainable Finance Challenges in Indonesia

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Article Info

Article history:

Received September, 2025
Revised September, 2025
Accepted September, 2025

Keywords:

Green Finance,
Sustainable Finance,
Institutional Capacity,
Stakeholder Collaboration,
Indonesia

ABSTRACT

This study examines green finance management as a strategic approach to addressing sustainable finance challenges in Indonesia. As the country faces pressing environmental and social issues, financial institutions are under increasing pressure to align their practices with sustainability principles. Despite policy initiatives such as the OJK Sustainable Finance Roadmap, challenges remain in regulatory enforcement, institutional capacity, and public awareness. Using a qualitative design, data were collected through in-depth interviews with three key informants representing a financial institution, a regulatory body, and a sustainability practitioner. The findings highlight five central themes: the importance of strengthening regulatory frameworks, enhancing institutional capacity, promoting stakeholder collaboration, overcoming awareness and cultural barriers, and fostering green financial innovation. These results suggest that green finance management serves as both a policy instrument and a practical tool for aligning economic growth with environmental protection. The study contributes to the literature on sustainable finance in Indonesia and offers practical insights for policymakers, financial institutions, and stakeholders in advancing sustainability through finance.

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1. INTRODUCTION

The pursuit of sustainable development has become a global priority as nations face the growing impacts of climate change, environmental degradation, and social inequality, with financial systems playing a central role in this transformation by directing capital flows toward environmentally responsible and socially inclusive projects. In this context, green finance management has emerged as a strategic approach to integrate sustainability into financial decision-making, ensuring that investments not only generate economic returns but also contribute to environmental protection and social welfare. Green finance supports the transition to a low-carbon economy by funding environmentally friendly projects and promoting energy efficiency and renewable energy development [1], [2], while also integrating environmental, social, and governance (ESG) factors into financial decisions to enhance financial stability and drive the green transformation of the economy [3]. Instruments such as green bonds and sustainable development loans have become pivotal in promoting economic sustainability and fostering international cooperation [3]. Despite its potential, green finance faces challenges including information asymmetry and the lack of standardized evaluation systems that hinder effective implementation [3], alongside inconsistent standards and transparency issues, particularly in emerging markets such as China, which limit its full potential [3]. Moreover, its interdisciplinary nature demands collaboration across environmental, social, and economic domains, adding complexity to governance and coordination [2]. Nevertheless, legislative measures and international trends are creating opportunities for deeper integration of green finance across industries [4], and continued research along with interdisciplinary collaboration remains essential to advance sustainable finance agendas and address social and environmental inequalities [1], [2].

In Indonesia, the urgency of implementing sustainable finance is underscored by its vulnerability to climate-related risks such as flooding, deforestation, and biodiversity loss, while as one of the largest emerging economies in Southeast Asia, the country is under increasing international pressure to align its financial policies with global sustainability goals, including the Paris Agreement and the United Nations Sustainable Development Goals (SDGs). Despite these commitments, challenges persist in the adoption of sustainable finance practices, including weak regulatory enforcement, low public awareness, and limited institutional capacity to implement green financial instruments effectively, which hinders the effective deployment of solutions crucial for addressing climate-related risks. The current regulatory framework lacks stringent enforcement mechanisms, as reflected in the Financial Services Authority Regulation No. 51/POJK.03/2017 which, while addressing environmental sustainability, does not impose effective penalties on non-compliant banks, thereby making green banking largely voluntary [5], hence the need for stricter penalties and enhanced oversight to ensure compliance with sustainability standards [5]. At the institutional and market level, the Indonesian financial services sector has shown limited engagement in sustainable finance, with a significant portion of loans still directed toward non-green activities [6], while barriers such as uncompetitive pricing, restrictive project scales, and limited access to information impede the growth of green finance [7]. Nevertheless, opportunities remain through the development of a favorable ecosystem with proper policies and incentives to expedite the establishment of a sophisticated sustainable finance system [6], alongside efforts to enhance market transparency and harmonize policies across ministries to facilitate the transition to a low-carbon economy [7].

Green finance management offers a potential solution to sustainability challenges by providing frameworks and strategies to strengthen governance, mobilize capital, and align financial activities with sustainability principles, where effective management requires not only the development of policies and financial products but also the engagement of stakeholders such as financial institutions, regulators, and sustainability practitioners. As a pivotal approach to addressing environmental challenges, green finance management involves developing policies and financial products alongside stakeholder engagement, forming a comprehensive framework that integrates strategies to mobilize capital and strengthen governance. In practice, green finance supports environmentally friendly initiatives through instruments like green bonds and sustainability-focused investment funds, which are crucial for funding low-carbon projects and environmentally sound technologies [8], while tax incentives and subsidies serve as essential policy tools that create favorable conditions for green finance expansion and encourage sustainable investments [8]. Moreover, engaging stakeholders—including local governments, communities, and private investors—is vital for ensuring that projects align with local needs and sustainability goals [9], with financial institutions and regulators also playing a significant role in advancing the green finance agenda by adopting sustainable practices and shaping policy frameworks [10]. Despite this potential, challenges such as insufficient regulatory frameworks, lack of awareness, and high transaction costs hinder green finance implementation, necessitating integrated efforts from policymakers and financial institutions to overcome these barriers [11], while enhancing public awareness and improving information management systems can mitigate information asymmetry and foster sustainable economic growth [10]. However, research on how green finance management can be practically applied in Indonesia remains limited, particularly when examined through qualitative insights from key actors directly involved in the process.

This study seeks to address the existing gap by exploring how green finance management functions as a strategy to overcome sustainable finance challenges in Indonesia, employing a qualitative approach with three informants representing financial institutions, regulatory bodies, and sustainability experts to provide an in-depth understanding of the opportunities and barriers in its implementation, while focusing on identifying practical strategies that can support Indonesia's transition toward a more sustainable financial system. The significance of this research lies in its dual contribution to academic and practical discussions on sustainable finance, as academically it enriches the limited body of literature on green finance management in the Indonesian context, and practically it offers policymakers, financial institutions, and development stakeholders valuable insights into how green finance strategies can be leveraged to strengthen regulatory frameworks, build institutional capacity, and foster collaboration among stakeholders.

2. LITERATURE REVIEW

2.1 Concept of Green Finance

Green finance is a pivotal mechanism for promoting sustainable development by integrating environmental considerations into financial activities, supporting projects such as renewable energy, sustainable agriculture, and climate adaptation, with its significance growing since the mid-2010s through global efforts to address climate change and achieve SDGs [1], [12]. Key instruments include green bonds and loans that fund projects with positive environmental impacts [12], [13], climate funds and impact investments that generate measurable environmental benefits alongside financial returns [14], and environmental insurance that helps manage risks and encourage investment [13]. The main objectives are to balance economic growth with environmental stewardship by reducing carbon emissions [14], facilitate the shift to a low-carbon economy through renewable energy and efficiency projects [13], and support ESG principles by aligning financial decisions with sustainability goals [11], [13]. Yet, challenges persist in regulatory and market development, requiring robust frameworks to support sustainable investments [13], as well as in addressing social and environmental inequalities to ensure green finance promotes inclusive growth [1].

2.2 Green Finance Management

Green finance management is a strategic approach that integrates financial resources with sustainability objectives to support environmentally and socially responsible projects by embedding sustainability goals into financial policies, enhancing institutional capacity, and fostering stakeholder engagement, where the integration of green finance with environmental, social, and governance (ESG) performance is crucial for advancing sustainable development and transitioning to a low-carbon economy. Green finance policies are designed to support investments in projects with positive environmental impacts and facilitate the transition to a low-carbon economy [14], while embedding sustainability goals into financial regulations is essential for promoting environmental stewardship and corporate social responsibility [15]. Strengthening the capacity of financial institutions to design and implement green financial products is vital for effective management, though challenges such as lack of understanding, initial costs, and resource constraints remain and must be addressed through cross-sector collaboration [16]. Moreover, stakeholder engagement involving government, private sector, and communities is crucial for inclusive and sustainable outcomes, as green finance practices are increasingly recognized as essential for integrating environmental values into investment decisions and mitigating environmental risks [16].

2.3 Sustainable Finance Challenges in Indonesia

Indonesia's journey toward sustainable finance faces challenges from evolving regulations, low awareness, uneven institutional readiness, and the tension between economic growth and sustainability, as despite the Financial Services Authority (OJK) launching a Sustainable Finance Roadmap, many institutions remain in early adoption stages, hindered by weak enforcement and limited public demand for green financial products. Larger banks and corporations are better positioned than smaller institutions and MSMEs, creating disparities, while sectors like mining and energy struggle to balance short-term economic gains with long-term sustainability. Regulation No. 51/POJK.03/2017 addresses environmental issues but lacks effective penalties, making green banking largely voluntary [5], and greater harmonization across ministries is needed [7]. Low awareness remains a barrier [17], and resource constraints limit MSMEs compared to larger institutions [17]. Furthermore, fossil fuel subsidies exacerbate these challenges, slowing the transition to a low-carbon economy [7].

2.4 The Role of Financial Institutions

Financial institutions in Indonesia are central to advancing sustainable finance, yet adoption of green financing frameworks remains limited and concentrated among major banks, even though integrating Environmental, Social, and Governance (ESG) criteria and issuing green financial products are vital for environmental and social impact. OJK Regulation No. 51/POJK.03/2017 encourages ESG integration in banking operations to align with national sustainability goals [18], while the Sustainable Finance Roadmap promotes credit allocation to environmentally certified projects [19]. Early adopters show that ESG practices can boost profitability, reputation, and customer loyalty [18]. Still, weak regulatory frameworks, high transaction costs, and low awareness among smaller institutions hinder broader adoption [11]. Expanding investment in renewable energy, sustainable agriculture, and green buildings [20], alongside stakeholder collaboration and innovative financial products [21], as well as stronger cooperation between policymakers and financial institutions, are crucial to overcoming these barriers [11].

2.5 Policy and Regulatory Framework

Indonesia's efforts to advance sustainable finance through regulations and roadmaps, such as the OJK Sustainable Finance Roadmap and the issuance of green sukuk, demonstrate a strong commitment to integrating sustainability into financial practices by mobilizing funds for environmentally friendly projects and aligning financial innovation with sustainable development goals. Green sukuk, which combine Islamic finance principles with sustainability, have been pivotal in funding climate-friendly projects tat support renewable energy and sustainable infrastructure while contributing to job creation and improved access to clean energy [22], [23], although challenges such as limited awareness and capacity among financial institutions still hinder their optimization [22]. The OJK Sustainable Finance Roadmap provides a strategic framework for adopting sustainability practices, yet its effectiveness is constrained by weak sanctions and enforcement mechanisms, making green banking regulations less impactful [5]. Effective implementation also requires stronger coordination among government agencies and financial institutions to ensure policy integration [24], as well as efforts to mainstream SDGs into national planning and financing processes by reconciling interrelated goals and enhancing collaboration across actors [24]. The establishment of innovative financing instruments, such as sovereign green sukuk, further aims to close financing gaps and leverage private investment to drive sustainable development [24].

2.6 Stakeholder Collaboration in Green Finance

Successful green finance management in Indonesia requires collaboration among governments, financial institutions, civil society, NGOs, and international organizations, each contributing to an environment that supports sustainable investments. The government has initiated public-private partnerships for renewable energy projects and committed to reducing greenhouse gas emissions through policies that promote green investments [25], yet stronger coordination and accountability mechanisms are needed. Effective regulations and supportive policies are essential to harmonize global standards, ensure transparency, and direct financial flows toward sustainable projects [26]. Financial institutions play a key role by designing and implementing instruments such as green bonds and investment funds to channel capital toward environmentally friendly projects [26], while also being encouraged to innovate financial frameworks that support sustainable investments [27]. Civil society and NGOs strengthen awareness and accountability, ensuring alignment of green finance initiatives with social and environmental goals [14], and act as bridges between policy and practice by promoting transparency and monitoring outcomes [28]. At the international level, organizations provide technical assistance, funding, and best practices crucial for enhancing Indonesia's green finance capacity [27], with partnerships helping the country address risks of greenwashing and data quality issues [26].

2.7 Research Gap

Although existing literature has discussed the importance of green finance in Indonesia, few studies have examined how green finance management functions as a concrete strategy to address sustainable finance challenges. Most studies have been quantitative or policy-based, leaving limited qualitative insights into how practitioners and regulators perceive the barriers and opportunities of green finance in practice. This research seeks to fill that gap by exploring qualitative perspectives from three key informants, offering a more nuanced understanding of green finance management in the Indonesian context.

3. METHODS

3.1 Research Design

This study adopts a qualitative research design to explore the role of green finance management as a strategy to address sustainable finance challenges in Indonesia. A qualitative approach was chosen because it enables an in-depth understanding of complex social and institutional dynamics that cannot be fully captured through quantitative methods. The research is exploratory in nature, focusing on perceptions, experiences, and insights from key actors directly involved in the field of sustainable finance.

3.2 Research Approach

The study applies a case-oriented interpretive approach, which emphasizes meaning-making through the perspectives of participants. By focusing on lived experiences and institutional practices, this approach allows the researcher to uncover strategies, challenges, and opportunities in implementing green finance management.

3.3 Informants

Data were collected from three purposively selected informants representing key stakeholder groups in green finance and sustainable finance practices in Indonesia, consisting of a senior officer from a financial institution implementing green lending initiatives, a policymaker from the Financial Services Authority (OJK) involved in sustainable finance regulations, and a sustainability practitioner from a non-governmental organization (NGO) or consultancy specializing in environmental and financial sustainability. The selection was guided by specific criteria, namely direct involvement in sustainable finance initiatives, professional experience of at least five years, and the capacity to provide relevant insights into green finance management practices in Indonesia.

3.4 Data Collection Techniques

The primary data were collected through in-depth semi-structured interviews, a method chosen to provide flexibility for informants to express their perspectives while ensuring coverage of core themes related to green finance management. Each interview lasted 60–90 minutes and was conducted either face-to-face or via online platforms, depending on informant availability, guided by questions focusing on understanding green finance and its importance, experiences in implementing green finance strategies, perceived challenges in sustainable finance practices in Indonesia, opportunities and strategies to address these challenges, and recommendations for improving green finance management. To complement the primary data and provide contextual understanding, secondary sources such as policy documents, OJK reports, academic journals, and previous studies were also reviewed.

3.5 Data Analysis

The data analysis employed thematic analysis using Braun and Clarke's (2006) six-step framework, beginning with familiarization through transcribing, reading, and re-reading interview materials, followed by generating initial codes to identify significant statements related to green finance management. These codes were then grouped into broader themes such as regulatory frameworks, institutional capacity, and stakeholder collaboration, which were reviewed to ensure alignment with the data and research objectives. The next steps involved defining and naming themes to refine their meaning for clarity, and finally producing the report by integrating findings into the discussion with supporting quotes from informants. This approach ensured a rigorous and systematic interpretation of qualitative data while maintaining flexibility to capture the depth and richness of informants' perspectives.

4. RESULTS AND DISCUSSION

4.1 Descriptive Overview of Informants

The three informants provided insights from different perspectives within the green finance ecosystem. The financial institution representative emphasized practical experiences in implementing green lending schemes. The regulatory authority highlighted policy frameworks and regulatory gaps. Meanwhile, the sustainability practitioner focused on challenges of awareness, capacity building, and cross-sector collaboration. Collectively, these perspectives offered a holistic understanding of the opportunities and barriers in promoting green finance management in Indonesia.

4.2 Key Themes from Thematic Analysis

4.2.1 Strengthening Regulatory Frameworks

All informants agreed that regulations are crucial in shaping the direction of sustainable finance. The regulator emphasized the role of the OJK Sustainable Finance Roadmap in setting strategic priorities. However, the informants noted gaps in implementation, including limited enforcement mechanisms and inconsistent ESG reporting standards. The financial institution informant stressed the need for clearer guidelines to reduce uncertainty in green project financing.

4.2.2 Enhancing Institutional Capacity

The financial institution representative revealed that implementing green lending policies requires specialized expertise in assessing environmental and social risks. Limited technical knowledge within financial institutions was identified as a significant barrier. The sustainability practitioner echoed this concern, highlighting the need for training, capacity building, and the development of standardized tools to evaluate green investments.

4.2.3 Promoting Stakeholder Collaboration

All three informants highlighted the importance of collaboration among government, financial institutions, businesses, and civil society. According to the sustainability practitioner, collaboration helps bridge gaps in knowledge and resources, while the regulator emphasized the role of public-private partnerships in scaling up renewable energy and sustainable infrastructure projects. The financial institution representative also noted that stakeholder collaboration builds investor confidence and enhances transparency.

4.2.4 Overcoming Awareness and Cultural Barriers

The sustainability practitioner pointed out that limited awareness among businesses and the general public remains a challenge. Many companies still view sustainability as an additional cost rather than an investment. Similarly, customers are often unfamiliar with green financial products such as green bonds or loans. Addressing these cultural and awareness barriers requires sustained education and advocacy campaigns.

4.2.5 Opportunities in Green Finance Innovation

Despite the challenges, the informants identified significant opportunities in developing innovative green financial instruments. The regulator highlighted Indonesia's success in issuing green sukuk to attract international investors. The financial institution representative emphasized the growing market demand for ESG-compliant investments, which can provide competitive advantages for banks and companies that adopt sustainable practices.

4.3 Discussion

The findings of this study demonstrate that green finance management is both a necessity and a strategic pathway for Indonesia to address its sustainable finance challenges, consistent with prior studies that emphasize the role of regulatory frameworks, institutional readiness, and stakeholder engagement (UNEP, 2017; OJK, 2021). Weak enforcement and lack of standardization in sustainable finance policies remain major barriers to scaling up green finance [11], [14], highlighting the importance of regulatory clarity and consistency for effective implementation [14]. Institutional capacity is equally critical, as technical expertise, trained personnel, and reliable assessment tools are essential for evaluating green projects [11], with capacity building necessary to overcome persistent barriers in practice [14]. Furthermore, stakeholder collaboration emerged as a crucial element, as multi-stakeholder engagement is needed to mobilize resources and address fragmented policy implementation [11], [29], while collaboration among policymakers, financial institutions, and other stakeholders is key to fostering sustainable economic development [11]. Awareness and cultural barriers also reveal the social dimension of green finance, where shifting perceptions from viewing sustainability as a cost to recognizing it as an opportunity is vital for behavioral change among businesses and consumers [12], [14], with low awareness further impacting adoption and effectiveness [14].

Finally, the study highlights opportunities in green financial innovation, particularly through green sukuk and ESG investments, which illustrate Indonesia's potential to attract international capital. These instruments not only align with global financial trends but also position Indonesia as a prospective leader in Islamic green finance, offering a pathway to strengthen its role in advancing sustainable economic development while addressing environmental challenges.

5. CONCLUSION

This research demonstrates that green finance management is a crucial strategy for addressing Indonesia's sustainable finance challenges. Although the government has introduced regulatory frameworks such as the Sustainable Finance Roadmap, their effectiveness is highly dependent on strong enforcement and standardized ESG reporting practices. Insights from the three informants indicate that institutional capacity is still uneven, as many financial institutions lack the technical expertise and appropriate tools to effectively evaluate green projects. In addition, limited awareness among businesses and the general public continues to suppress demand for green financial products, further constraining the growth of sustainable finance in the country.

Despite these challenges, the study identifies substantial opportunities for Indonesia to position itself as a leader in sustainable and green finance, particularly through innovative instruments like green sukuk and ESG-based investments. Achieving this potential will require stronger collaboration among regulators, financial institutions, private enterprises, and civil society to ensure inclusiveness, accountability, and scalability. In conclusion, green finance management must be advanced as an integrated strategy that combines regulatory support, institutional development, stakeholder partnerships, and cultural transformation. By strengthening these dimensions, Indonesia can not only tackle its domestic sustainability issues but also attract international investment, enhance economic resilience, and contribute meaningfully to global climate and development goals.

REFERENCES

[1] S. Mohanty, S. S. Nanda, T. Soubhari, V. N. S, S. Biswal, and S. Patnaik, "Emerging research trends in green finance: A bibliometric overview," *J. Risk Financ. Manag.*, vol. 16, no. 2, p. 108, 2023.

[2] B. Krastev and R. Krasteva-Hristova, "Challenges and Trends in Green Finance in the Context of Sustainable Development—A Bibliometric Analysis," *J. Risk Financ. Manag.*, vol. 17, no. 7, p. 301, 2024.

[3] C. Tang, "Green finance and investment: Emerging trends in sustainable development," *J. Appl. Econ. Policy Stud*, vol. 6, pp. 36–39, 2024.

[4] J. M. Kappal and A. Doifode, "Green Finance: A Catalyst for Sustainable Future," in *2023 International Conference on Sustainable Islamic Business and Finance (SIBF)*, IEEE, 2023, pp. 265–270.

[5] N. D. Kartiko, A. A. Indradewi, and F. Sugianto, "The Urgency of Green Banking Regulations in Indonesia in the Implementation of Sustainable Development," *Adm. Environ. Law Rev.*, vol. 5, no. 2, pp. 135–154, 2024.

[6] T. K. Ridho and M. V Vinichenko, "Evaluation of sustainable finance implementation in emerging markets," *J. Policy Soc.*, vol. 1, no. 1, p. 468, 2023.

[7] A. Liebman, A. Reynolds, D. Robertson, S. Nolan, M. Argyriou, and B. Sargent, "Green finance in Indonesia," in *Handbook of Green Finance*, Springer, 2019, pp. 1–30.

[8] E. Agirman and A. B. Osman, "Green finance for sustainable development: A theoretical study," *Avrasya Sos. ve Ekon. Araştırmaları Derg.*, vol. 6, no. 1, pp. 243–253, 2019.

[9] S. Mulandi and P. Mwania, "The Effectiveness of Green Products Offered by the Kenyan Banks in attaining Green Financing. A Case of Kenya Commercial Bank," *J. African Interdiscip. Stud.*, vol. 6, no. 11, pp. 336–361, 2022.

[10] A. Afzal, E. Rasoulinezhad, and Z. Malik, "Green finance and sustainable development in Europe," *Econ. Res. istraživanja*, vol. 35, no. 1, pp. 5150–5163, 2022.

[11] H. Sharma and S. Jain, "Navigating the Green Finance Landscape: Trends, Challenges, and Future Directions in the Banking Sector," in *Multidisciplinary Approaches for Sustainable Development*, CRC Press, 2024, pp. 344–348.

[12] D. Verma, R. Kalra, and S. S. Baheti, "Examining the domain of green finance through bibliometric research analysis of 22 years (2000–2022): an analytical retrospective," *Vision*, vol. 29, no. 2, pp. 244–265, 2025.

[13] О. С. Чернобай, "Финансово-кредитный инструментарий зеленого финансирования: тенденции и перспективы развития," *Учет и статистика*, vol. 21, no. 4, pp. 142–151, 2024.

[14] P. K. Ozili, "Green finance research around the world: a review of literature," *Int. J. Green Econ.*, vol. 16, no. 1, pp. 56–75, 2022.

[15] W. Chen, G. Arn, H. Song, and Y. Xie, "The influences of digital finance on green technological innovation in China's manufacturing sector: The threshold effects of ESG performance," *J. Clean. Prod.*, vol. 467, p. 142953, 2024.

[16] S. Lakasse, A. Amril, H. Syamsuri, and I. A. Jusman, "The role of green finance in sustainable business strategies: Opportunities and challenges for business organizations," *J. Penelit. Inov.*, vol. 4, no. 2, pp. 665–672, 2024.

[17] T. K. Ridho, "Sustainable Finance Implementation in Emerging Markets: a preliminary review of initiatives in Indonesia".

[18] C. M. P. Pangaribuan and I. Idrianita, "Analisis Praktik Esg Bank First Mover on Sustainable Finance," *Akad. J. Mhs. Ekon. Bisnis*, vol. 4, no. 3, pp. 1392–1406, 2024.

[19] N. Hayati and E. Yulianto, "Peranan keuangan berkelanjutan pada industri perbankan dalam mendukung sustainable development goals: Peranan keuangan berkelanjutan pada industri perbankan dalam mendukung sustainable development goals," *J. Akunt. Bisnis Dan Ekon.*, vol. 6, no. 1, pp. 1633–1652, 2020.

[20] A. Svoboda, "The Role of Financial Services in the Transition to a Sustainable Economy.," *J. Strateg. Innov. Sustain.*, vol. 18, no. 3, 2023.

[21] A. V. Riana, "The Impact of Green Banking Initiatives: Assessing Environmentally Friendly Banking on Islamic Banks in Indonesia," *SUKUK Int. J. Banking, Financ. Manag. Bus.*, vol. 3, no. I, pp. 1–15, 2024.

[22] A. Arifudin, N. Anjani, N. Serliana, M. Auliah, and A. Amaliah, "Green sukuk: Tantangan dan strategi pengembangan

untuk pembangunan berkelanjutan serta menuju ekonomi hijau," *SANTRI J. Ekon. Dan Keuang. Islam*, vol. 2, no. 3, pp. 12–20, 2024.

[23] M. I. Balative, E. Hariyanto, A. Sholikhah, and R. G. Prayoga, "A Closer Look at Indonesia's Experience in Developing Green Sukuk," in *Islamic Finance and Sustainability*, Routledge, 2025, pp. 441–464.

[24] A. Halimatussadiah, "Mainstreaming the Sustainable Development Goals into national planning, budgetary and financing processes: Indonesian experience," 2020.

[25] M. P. Soejachmoen, "Financing the green transformation: how to make green finance work in Indonesia," 2017, *Taylor & Francis*.

[26] C. Banga and M. Afzal, "Navigating the Green Financial Markets: Opportunities and Challenges," *Explor. Pillars Sustain. Mod. Age Improv.*, pp. 201–226, 2025.

[27] U. Volz, J. Böhnke, L. Knierim, K. Richert, G.-M. Roeber, and V. Eidt, *Financing the green transformation: How to make green finance work in Indonesia*. Springer, 2015.

[28] K. Berensmann and N. Lindenberg, "Green finance: Akteure, herausforderungen und politikempfehlungen," Analysen und Stellungnahmen, 2016.

[29] M. A. Naeem, S. Karim, M. R. Rabbani, A. Bashar, and S. Kumar, "Current state and future directions of green and sustainable finance: a bibliometric analysis," *Qual. Res. Financ. Mark.*, vol. 15, no. 4, pp. 608–629, 2023.