

The Role Of Green Sukuk In Achieving The Sustainable Development Goals (SDGs) In Indonesia

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Abstract: This study examines the strategic role of Islamic finance, specifically through Green Sukuk instruments, in supporting the achievement of the Sustainable Development Goals (SDGs) in Indonesia. Amidst the global urgency of climate change and the substantial funding gap for green infrastructure, this research evaluates how Green Sukuk aligns with maqasid al-shariah to foster environmental sustainability. This research employs a qualitative descriptive approach using a systematic literature review. Data were synthesized from government reports, official documents from the Ministry of Finance, and academic journals published between 2020 and 2025 to ensure contemporary relevance. The analysis reveals that Indonesia's Green Sukuk issuance reached USD 6 billion by 2023, positioning the nation as a global leader in Islamic green finance. However, there is a significant sectoral imbalance: 97% of the funds are allocated to climate resilience and disaster risk reduction (supporting SDGs 6 and 13), while critical sectors like renewable energy and sustainable transport (supporting SDGs 7 and 11) receive less than 1%. Furthermore, the market remains heavily reliant on sovereign issuance, with minimal participation from the private sector due to a lack of fiscal incentives and concerns over "greenwashing". The conclusion is Green Sukuk is a vital instrument for Indonesia's sustainable development, yet its potential as a transformative tool for a low-carbon economy remains underutilized. To maximize impact, the government must diversify project allocations toward renewable energy and provide competitive incentives to stimulate private-sector involvement.

Keywords: Green Sukuk, Sustainable Development Goals (SDGs), Climate Change, Indonesia.

INTRODUCTION

The issue of sustainable development is currently a top priority for the international community. Through the 2015–2030 Global Sustainable Development Goals (SDGs) agenda, all nations have agreed to mitigate the impacts of climate change, reduce social inequality, and promote inclusive economic growth. The greatest challenge in realizing the SDGs lies in the massive funding requirements, particularly for the development of environmentally friendly infrastructure. According to World Bank records, developing countries require more than USD 1 trillion annually to support this sustainable financing agenda. In this regard, Islamic finance plays

a strategic role because it emphasizes the principles of justice, sustainability, and alignment with the maqasid al-shariah, which are consistent with the SDGs' objectives.

In global geopolitics, one topic that is constantly discussed is climate change—the shifts in climate caused by human activities such as the use of fossil fuels, deforestation, and livestock farming, which contribute to global warming and climate change. Given the extent of these changes, climate change has become a serious global issue, prompting many nations to seek solutions or mitigation efforts to reduce the impacts of these shift (Musari and Hidayat 2023).

Climate change is one of the major challenges facing Indonesia. As an archipelago, Indonesia is highly vulnerable to the threats of rising sea levels, extreme weather events, and ecosystem degradation. The government is committed to reducing carbon emissions by 29% through domestic efforts, and up to 41% with international support by 2030. To achieve these targets, alternative financing instruments are needed that can align development needs with environmental goals (Yaniza, Ramadhanti, and Bimo 2022).

The Green Economy is a solution emerging from the challenges of climate change. The Green Economy offers a key strategy: balancing economic growth with environmental conservation. It is a program focused on energy efficiency, reducing carbon emissions, and driving the energy transition from fossil fuels to more environmentally friendly renewable energy. However, this transition is not a cheap endeavor; it requires significant investment, which is why an innovation has emerged from existing financial instruments: Green Sukuk.

Indonesia, as the country with the world's largest Muslim population, plays a major role in optimizing Sharia-compliant financial instruments to support sustainable financing. This is evidenced by the government's commitment to addressing climate change through the development of various green financing instruments, one of which is Green Sukuk. Green Sukuk is a Sharia-compliant bond, where 100% of the proceeds are used to finance or refinance green projects that contribute to climate change mitigation and adaptation as well as the conservation of biodiversity; this initiative aligns with Indonesia's goal of achieving the SDGs. The issuance of Green Bonds/Sukuk is guided by the Green Bond and Green Sukuk frameworks reviewed by CICERO (Center for International Climate Research) (Karina 2019).

Green sukuk were first issued in 2018 to support Indonesia's goals for reducing GHG emissions. The 2018 issuance of green sukuk marked the first such issuance in the world. Green sukuk are considered relevant to achieving the government's goals because the proceeds from their issuance are specifically allocated to development sectors that prioritize environmental sustainability, thereby enabling the government to address climate change-related issues. In this context, Green Sukuk is viewed as a strategic solution.



Picture 1. SNI Serie at Global Market

Source : Ministry of Finance 2024

According to data released by the Ministry of Finance in 2024, the Indonesian government has continued to boost and strengthen the Islamic finance sector through Green Global Sukuk. From 2018 to 2023, the value of these sukuk rose from 1.25 billion U.S. dollars to 6 billion U.S. dollars, with an average annual increase of 1.2 billion U.S. dollars. According to the State of the Global Islamic Economy (SGIE) Report, Indonesia rose one rank in the Islamic finance sector, moving from 7th place in 2023 to 6th place in 2024, marking a one-rank improvement. The issuance of Green Sukuk serves as a key indicator of this strengthening in the Islamic finance sector.

Research by Anggraini (2018) confirms that the issuance of Green Sukuk not only strengthens Indonesia's position in the global Islamic finance market but also affirms Indonesia's leadership in Southeast Asia in integrating Islamic finance with environmental issues. Although research on green financial instruments has grown rapidly, the current literature on Green Sukuk in Indonesia still has significant limitations. Most previous studies have focused primarily on the

theoretical aspects, regulatory reviews, and Sharia compliance of these instruments. Studies such as those conducted by Fitrah and Soemitra (2022) and Pujiantoro, Dindalila, and Fakhruddin (2021) have successfully mapped out initial opportunities and challenges, yet there remains a gap in comprehensive analysis regarding the effectiveness of fund allocation toward specific SDGs targets beyond the climate resilience sector.

Additionally, there is a notable data gap regarding the role of the private sector. To date, the issuance of Green Sukuk remains entirely dominated by the government (sovereign), while private corporate participation remains minimal compared to neighboring countries such as Malaysia or the United Arab Emirates. Few studies have deeply analyzed the structural barriers preventing the private sector in Indonesia from adopting this instrument as part of their sustainable financing strategies.

This study aims to fill this gap by exploring the strategic contribution of Green Sukuk through a more integrative approach. The research focus is not limited to national carbon emission targets but also examines how this instrument can drive low-carbon economic transformation in sectors that have historically received insufficient allocation, such as renewable energy and sustainable transportation. Thus, this study provides new insights into the effectiveness of Green Sukuk as a hybrid instrument that can attract the interest of global ESG-based investors while comprehensively supporting the SDGs agenda in Indonesia.

Against this background, this study aims to examine in greater depth the role of Islamic finance, particularly through Green Sukuk, in supporting the achievement of the SDGs in Indonesia. This research is important because it will provide a comprehensive understanding of the contribution of Green Sukuk, while also identifying the challenges faced in its implementation. The findings are expected to provide insights for the government, regulators, and market participants in developing sustainability-oriented Islamic financial instruments.

LITERATUR REVIEW

This literature review discusses the findings of previous studies related to the role of Islamic finance—specifically through green sukuk instruments—in supporting the achievement of the Sustainable Development Goals (SDGs) in Indonesia. This review serves as a theoretical

foundation and highlights the current state of research within the context of prior studies. As the urgency of climate change and sustainable development issues grows, many studies highlight how green sukuk can serve as an environmentally friendly financing solution that aligns with Sharia principles and global development goals.

Green sukuk plays a strategic role as a bridge between the values of maqasid al-shariah and the SDG targets. Research indicates that projects financed through green sukuk in Indonesia directly support SDG 7 (Affordable and Clean Energy), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action). These findings confirm that Islamic finance is not only relevant within the realm of Islamic economics but also makes a tangible contribution to addressing global challenges, including the transition toward a low-carbon economy (Musari and Hidayat, 2023).

Furthermore, (Fitrah and Soemitra 2022) highlight that Indonesia became the first country to issue a sovereign green sukuk worth USD 1.25 billion in 2018. This move strengthened Indonesia's reputation in the global Islamic finance market and simultaneously demonstrated the government's commitment to supporting the sustainable development agenda. The study also underscores the role of green sukuk as a funding vehicle for renewable energy and eco-friendly transportation projects, as well as an innovative Islamic financial instrument that delivers social and environmental impact.

The research by (Pujiantoro et al. 2021) examines the opportunities and challenges of green sukuk in Indonesia. They assess that green sukuk in Indonesia hold significant potential alongside the growth of the Islamic financial market and increasing public awareness of sustainable investment. However, emerging challenges include low public literacy regarding Islamic green finance, limited government outreach, and a lack of diversification in green projects that can be financed through this instrument.

Public engagement is essential for fostering sustainable development across the three pillars of development: social, economic, and environmental. The government's role in promoting the concepts of the SDGs and green sukuk indirectly educates the public to integrate environmental stewardship into daily life, including investment choices. The positive impacts of such investments will benefit both investors and the nation (Yaniza et al. 2022).

Meanwhile, the findings of (Billah, Elsayed, and Hadhri 2023) highlight the contribution of green sukuk to the financing of sustainable development, particularly in the energy and green infrastructure sectors. The study notes that since their initial issuance in 2018, green sukuk funding allocations in Indonesia have largely been focused on renewable energy and energy efficiency projects, which directly support the SDGs agenda and national carbon emission reduction efforts.

Based on these five studies, it can be concluded that green sukuk hold significant potential as a Sharia-compliant financial instrument to support the achievement of the SDGs. However, previous research has largely focused on implementation, policy, and legal aspects, while analyses assessing the overall effectiveness of green sukuk in sustainable development remain limited. This study aims to fill this gap by exploring the strategic role of green sukuk in supporting sustainable development in Indonesia.

METHOD

This study employs a literature review method, which involves examining various written sources relevant to the research topic (Fiantika et al. 2022). This approach was chosen because the study focuses on analyzing concepts, policies, and empirical findings regarding the role of Islamic finance—particularly through green sukuk instruments—in supporting the achievement of the Sustainable Development Goals (SDGs) in Indonesia. In this study, the author collected and reviewed various sources of literature, including journal articles, government reports, official documents, and academic sources that discuss green sukuk, Islamic finance, and sustainable development.

In this study, the author collected and reviewed various sources of literature, including journal articles, government reports, official documents, and academic sources that discuss green sukuk, Islamic finance, and sustainable development. The literature reviewed was limited to the period from 2020 to 2025 to ensure that the discussion remains relevant and reflects the latest developments regarding the issuance and utilization of green sukuk in Indonesia.

After the literature was collected, the author conducted an in-depth review, grouped themes, and extracted key insights from each source. The analysis was descriptive in nature, comparing the results of previous studies (Fiantika et al. 2022), identifying similarities and differences in

findings, and assessing the extent to which green sukuk contribute to achieving sustainable development goals in Indonesia. Through this literature review method, the study is expected to provide a comprehensive overview of the development of green sukuk, the challenges of its implementation, and the opportunities that can be leveraged in efforts to strengthen the role of Islamic finance in advancing the SDGs agenda.

RESULT AND DISCUSSION

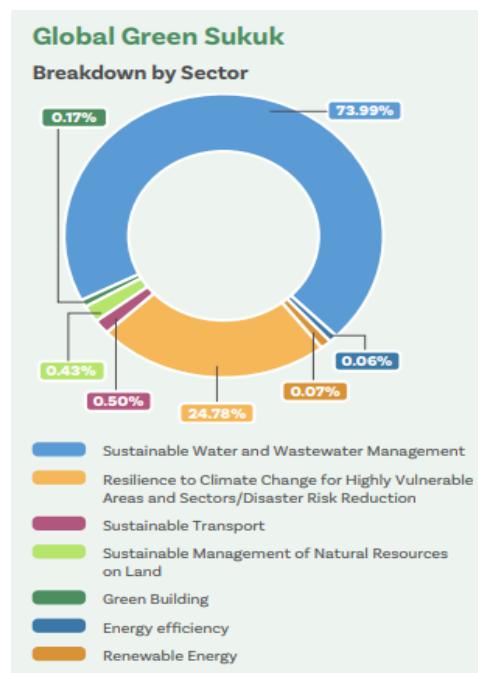
Green Sukuk in Indonesia

Green Sukuk is a financing instrument issued by the Indonesian government that focuses on green and sustainable projects. The first Green Sukuk was issued on March 1, 2018, with a value of 1.25 billion USD. Green Sukuk serves as a vehicle for the public to assist the government in protecting the environment. Since Green Sukuk was first issued in 2018, this instrument has received a very positive response, as evidenced by the continuous and significant increase in demand. This is not only because the projects are related to environmentally friendly programs but also due to clear regulations regarding Green Sukuk. The regulations that generally govern the issuance of sukuk—covering legal subjects, objects, and implementation procedures—are contained in three regulations, namely:

- 1) Law of the Republic of Indonesia No. 19 of 2008 on Sharia Securities (SBSN). The purpose is to enhance the potential of funding sources for national development by utilizing Sharia-based financial instruments.
- 2) Financial Services Authority Regulation No. 18/POJK.004/2015, which regulates the issuance and requirements of sukuk, including the refinement of regulations regarding the assets or business activities underlying sukuk as well as the issuance of sukuk.
- 3) Fatwa of the National Sharia Council of the Indonesian Ulema Council (DSN-MUI) No. 33/DSN-MUI/IX/2002 regarding Sharia Bonds. This DSN-MUI fatwa constitutes a written provision of an Ijtihad by the State Sharia Institution, aimed at facilitating all forms of muamalah activities in Indonesia, including sharia-based financial transactions. (Mauliyah, Hasanah, and Hasanah 2023).

The Implementation of Green Sukuk in Indonesia

Since their issuance in 2018, Green Sukuk in Indonesia have seen rapid growth. This positive and stable growth has made Green Sukuk one of the key instruments underpinning Indonesia's Islamic finance sector. Currently, the total value of Green Sukuk issued by the government stands at 9.59 billion USD, comprising three Green Sukuk models: Global Green Sukuk, Domestic Retail Green Sukuk, and Domestic Wholesale Green Sukuk. Global Green Sukuk accounts for the largest share, totaling 6 billion USD (Mauliyah et al. 2023).



Picture 2. Global Greem Sukuk

Source : Ministry of Finance 2024

According to the 2024 Green Sukuk Allocation and Impact Report from the Ministry of Finance (Ministry 2024), the majority of green sukuk funds were allocated to the Climate Resilience and Disaster Mitigation sector, which falls under sustainable water and wastewater management and Resilience to Climate Change for Highly Vulnerable Areas and Sectors/Disaster Risk Reduction, with projects such as Flood Control, Irrigation, Coastal Zone Management, and Disaster Risk Reduction. In percentage terms, Climate Resilience and Disaster Mitigation account for approximately 97% of the total national green sukuk fund allocation, while a small portion is allocated to other sectors such as Sustainable Transportation (0.50%), Sustainable Management of

Natural Resources on Land (0.43%), and Green Building, Energy Efficiency, and Renewable Energy (0.30%).

The fact that 97% of Green Sukuk funds are allocated to the climate resilience and disaster mitigation sectors indicates that this instrument remains reactive to Indonesia's geographical risks, but has not yet been fully transformative in shifting the energy mix. Although flood control and water resource infrastructure projects are crucial for public safety, there is an urgent need to diversify allocations toward the renewable energy and energy efficiency sectors, which currently account for less than 1%. Without expanding allocations to low-carbon productive sectors, Green Sukuk risks becoming merely a "greenwashed" conventional infrastructure financing instrument, even though Green Sukuk could serve as the primary driver of the national energy transition as mandated by SDG 7 (Affordable and Clean Energy).

This dominance reflects that the government prioritizes climate change adaptation in line with Indonesia's vulnerability to natural disasters such as floods, droughts, and landslides. These projects not only serve as climate adaptation efforts but also have a direct impact on food security and public safety. With such a large allocation, the government views climate change and disaster mitigation as critically important issues—not merely as environmental conservation concerns.

The utilization of green sukuk in the sustainable transportation sector can be seen in several projects, such as the Trans-Sumatra and Trans-Sulawesi railway projects, as well as the optimization of the railway system on the island of Java. However, although the transportation sector ranks third in terms of allocation, the amount allocated is very small. This indicates that the utilization of green sukuk in the transportation sector is still not optimal and has significant room for development, especially since the transportation sector is one of the highest contributors to carbon emissions in Indonesia.

The Contribution of Green Sukuk to the SDGs

Green Sukuk plays a vital role in the implementation of the SDGs (Sustainable Development Goals) by supporting sustainable development and addressing various environmental challenges. This instrument contributes to achieving the targets of the SDG agenda that focus on environmental sustainability. Green Sukuk emerged as a response to the growing need for the SDGs (Sustainable Development Goals) as well as efforts to address climate change and

environmental issues (Sa et al. 2025). The contribution of Green Sukuk to financing and sustainable development goals can be analyzed through the relationship between the sectors and projects undertaken and the points of the SDGs.(Rohmah et al. 2023).

Looking at the funding provided, the dominant sectors are Climate Resilience and Disaster Mitigation, aligning with SDG Goal 6 (Clean Water and Sanitation) and SDG Goal 13 (Climate Action), as the funded projects—such as the construction of dry reservoirs, Raw Water Networks, and Water Resource Infrastructure Development, which can aid in flood disaster mitigation and increase the number of people with access to clean water.

In the Sustainable Transportation Sector, Green Sukuk contribute to SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Sustainable Cities and Communities) through the development of mass transit and the modernization of public transportation. These contributions help reduce the use of private vehicles and encourage a shift to public transportation, which can lower carbon emissions and align with SDG 7 (Affordable and Clean Energy) by promoting the development of renewable energy power plants that lead to more energy-efficient consumption.

Overall, Green Sukuk has made a significant contribution to achieving the SDGs, particularly through strengthening climate resilience and reducing disaster risk. However, these contributions are still dominated by protection and adaptation approaches, while the potential of Green Sukuk as an instrument for transformation toward a low-carbon economy through energy efficiency and sustainable transportation still needs to be expanded in the future.

Challenges Facing Green Sukuk in Indonesia

The implementation of Green Sukuk also faces various challenges, ranging from regulatory and infrastructure issues to public understanding of Islamic finance and sustainability. One of the main obstacles is the lack of global standards governing the issuance of Green Sukuk, which creates uncertainty for international investors. Additionally, the low level of understanding among the public and market participants regarding the concept of Green Sukuk often hinders market penetration and slows its growth (Fadillah et al. 2025). The challenges facing Green Sukuk remain significant, as Green Sukuk is still a relatively new Islamic financial instrument.

The first challenge is the lack of public knowledge regarding Islamic finance, particularly Green Sukuk. The development of Islamic finance requires continuous innovation to attract the

attention of business actors, whether investors or individuals. However, this progress must align with strengthening the expertise of professionals who possess a deep understanding of Green Sukuk practices. These human resources can be developed through formal education, ongoing training programs, and other educational initiatives (Sa et al. 2025).

Furthermore, there is a lack of Green Sukuk issuance by the private sector in Indonesia. Currently, Green Sukuk issuance in Indonesia is still dominated by the government. This is due to the lack of incentives provided to private entities wishing to issue Green Sukuk. The provision of fiscal incentives or subsidies would have a positive impact on Green Sukuk issuance by the private sector, as they would benefit from issuing Green Sukuk. The experience in the United Arab Emirates (UAE), which implements a tax-free policy for Green Sukuk issuers, demonstrates that proactive policy interventions can stimulate a more dynamic and self-sustaining Islamic capital market ecosystem. Indonesia needs to adopt a similar model to strengthen private sector engagement in order to bridge the massive funding gap for the SDGs.

Beyond structural challenges, the threat of greenwashing is a critical issue that could erode international investors' trust in the integrity of Indonesia's Green Sukuk. Concerns that proceeds from issuances are not used for projects delivering tangible positive environmental impacts demand stricter data transparency and ongoing independent audits (Adzimatunur et al. 2024). This greenwashing issue can be addressed through data transparency regarding the funding and projects carried out using Green Sukuk (Ministry 2024). The use of frameworks reviewed by international institutions such as CICERO has indeed provided a strong basis of legitimacy; however, public and market participant education regarding the concept of Sharia-compliant green finance must still be enhanced to strengthen demand in the secondary market.

CONCLUSION

Green Sukuk has proven itself to be a strategic Islamic financial innovation in supporting the SDGs agenda in Indonesia, particularly through the financing of environmentally friendly infrastructure projects and the mitigation of climate change impacts. Although its development shows a positive trend with continuously increasing issuance values, this instrument still faces challenges in the form of sectoral allocation imbalances dominated by adaptation projects, low

private sector participation, and the urgent need for financial literacy and transparency to prevent the risk of greenwashing. To optimize its role, regulatory synergy is needed, including incentives for the private sector and project diversification in the renewable energy sector, so that Green Sukuk functions not only as a financing tool but also as a pillar of transformation toward an inclusive, equitable, and sustainable national economy in accordance with the principles of maqasid al-shariah.

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