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THE ROLE OF GREEN SUKUK ISSUANCE IN INDONESIA IN EFFORTS TO REDUCE GREENHOUSE GAS EMISSIONS A QUALITATIVE APPROACH

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Abstract

This article examines the potential for Green Sukuk issuance in Indonesia in the context of efforts to reduce greenhouse gas emissions. This research uses a qualitative approach. Data was collected through interviews with the Head of the Sharia Conformity Analysis and SBSN Legal Documents Section at the Ministry of Finance of the Republic of Indonesia, by tracing data sources from annual reports and the official websites of the Ministry of Finance and the Financial Services Authority regarding the issuance of Green Sukuk. Data were analyzed qualitatively using content analysis and thematic analysis. The research results confirm that the issuance of Green Sukuk in Indonesia plays a role in financing sustainable projects, making a significant contribution to reducing greenhouse gas emissions. Green Sukuk issuance in Indonesia during the 2018-2022 period reflects positive progress in financing sustainable projects. Significant funds raised from the issuance of Green Sukuk are allocated for refinancing previous year projects and financing new projects in the year of issuance. The sustainable transportation sector dominates the use of Green Sukuk funds, followed by climate change resilience, and sustainable water and wastewater management. These findings reflect a positive evolution since the development of the Green Bond and Green Sukuk framework in 2017. Green Sukuk has become an effective financial instrument in supporting sustainable development and climate change mitigation in Indonesia.

Keywords: *Climate Change; Greenhouse Gas Emissions; Green Sukuk; Sustainable Investment*

INTRODUCTION

The threat posed by climate change is becoming more urgent worldwide. The World Meteorological Organization (WMO, 2021) predicts that within the next five years, there is a 1.5°C chance of an increase in global temperatures, with 2021–2025 possibly being the hottest year. Even though there is a national commitment to reducing greenhouse gas (GHG) emissions, its contribution is still far from achieving the desired target.

Furthermore, a report from the European Commission shows that global GHG emissions will increase by 1.4% in 2022, reaching 53.8 Gt CO2eq, which is 2.3% higher than in 2019 and 1.4% higher than in 2021. The transportation sector experienced the largest increase, namely 4.7% in 2022. GHG emissions from the building sector experienced an increase of 4.6%. In the same year, global per capita emissions increased 0.4% to reach 6.76 t CO2eq/capita (Crippa et al., 2023). Therefore, the manifestation of a green economy requires large financing. The development of financial instruments that focus on Environmental, Social and Governance (ESG) principles and achieving Sustainable Development Goals (SDGs) must be implemented (Bappenas, 2021).

One of the financial instruments developed to support sustainable projects is Green Sukuk, which are securities that fund environmentally friendly projects issued in accordance with sharia principles. The Indonesian government, through the Ministry of Finance, has issued Green Sukuk as green bonds based on Islamic principles (Santoso, 2020; Rahman et al., 2024). Based on the 2022 financial report of the Ministry of Environment and Forestry, the budget allocation for reducing greenhouse gas (GHG) emissions in the forestry and waste sector reached 22,423,565,000. Budget realization amounted to 22,165,772,820, reaching 98.85% of the allocation. The achievement of the GHG emission reduction project reached 56.83% of the target of 17.22% (KLHK, 2022).

Green Sukuk is regarded as one of the Islamic financial instruments providing alternative funding to assist green development projects in a variety of industries, including climate change issues (Ulfah et al., 2024). Green Sukuk is anticipated as relevant financing in overcoming climate change because the use of funds must support environmentally sound development. This instrument also has the potential to attract new investors who focus on environmental development (Supriyadi et al., 2023; Suriani et al., 2023; Suriani et al., 2024; Akbar et al., 2024; Alkadi, 2024).

Green Sukuk functions as an innovative financial instrument designed to utilize funds from various sources to support various environmentally friendly and sustainable projects such as transportation, renewable energy and marine resources with the overall goal of funding, transitioning to a low-carbon economy and facilitating net zero emissions (Billah & Adnan, 2024).

Research on Green Sukuk is starting to gain interest. Abdullah and Nayan, (2020) used qualitative methods with secondary, explanatory data which highlighted the aspects of the contract that were suitable for Green Sukuk. Abubakar and Handayani, (2020) who used qualitative methods and content analysis concluded that Indonesia can develop Green Sukuk for green infrastructure from a legal framework perspective. Furthermore, Fitrah and Soemitra, (2022) used literature studies, highlighting Green Sukuk from the maqashid sharia perspective.

Mutmainah and Romadhon, (2023) used a qualitative approach and literature study, highlighting Green Sukuk in sustainable development. This research seeks to complement existing research by focusing on the potential and role of Green Sukuk issuance in Indonesia in efforts to overcome greenhouse gas emissions.

This research aims to elaborate on the role of Green Sukuk issuance in Indonesia in efforts to overcome greenhouse gas emissions. By utilizing secondary and primary data, including interviews with relevant practitioners and academics. This research aims to provide scientific contributions related to Green Sukuk as an Islamic financial instrument in an effort to overcome climate change and achieve Sustainable Development Goals (SDGs) in Indonesia. This research has strong significance regarding the role of Green Sukuk in Indonesia on the green economic sector in Indonesia. Through this research, it is hoped that it can strengthen understanding of the vital role of Green Sukuk in supporting sustainable projects and facing the challenges of climate change in Indonesia, providing a more holistic contribution to sustainable development initiatives.

This research assumes that Green Sukuk in Indonesia have a strategic role in supporting sustainable development by attracting investor interest in environmental projects, and expanding the investor base in the Islamic financial market. This financial

instrument not only offers attractive investment opportunities, but also contributes significantly to the green sector by allocating funds to renewable energy and energy efficiency projects. Compliance with green infrastructure criteria guarantees the sustainability of the project, ensuring the use of funds in accordance with environmental and sharia principles. Thus, the Islamic financial instrument for green projects, Green Sukuk, is a catalyst for the growth of the green sector and transformation towards a sustainable economy in Indonesia.

LITERATURE REVIEW

To support this research, there are four literature reviews used in the research, namely green sukuk, green economy, climate change and greenhouse gases, Sustainable Development Goals (SDGs).

Green Sukuk

Sukuk are long-term securities issued by entities that commit them to distribute returns to holders based on a profit sharing principle while returning the principal amount at maturity (DSN-MUI, 2002). Law of the Republic of Indonesia Number 19 of 2008 concerning State Sharia Securities stipulates the definition of State Sharia Securities (SBSN) as securities issued by the state based on sharia principles as proof of ownership which is equivalent to the value of SBSN assets both in rupiah and foreign currency. The issuance of SBSN or state sukuk is carried out with the aim of financing the State Revenue and Expenditure Budget, including financing development projects.

Green sukuk (GS) is a new financial tool that has gained momentum in recent years due to increasing attention to Islamic finance (Alkadi, 2024). Green Sukuk directs its proceeds exclusively to fund environmentally sustainable initiatives aimed at preserving biodiversity and mitigating climate change (Liu & Lai, 2021). Supriyadi et.al, (2023) emphasized that Green Sukuk is a sharia investment revolution in the contemporary era that accommodates environmental aspects.

This instrument is of particular relevance as it aligns with the principles of Islamic finance with environmental conservation objectives offering a viable pathway for governments to address the challenge of climate change (Santoso, 2020). Green Sukuk is based on the same principles as other sharia bonds and the method of issuance is the same as non-green sukuk issuance. However, Green Sukuk has additional elements that are shown in the pioneering Green Sukuk, namely green framework, second opinion and impact report (UKIFC & UNDP, 2021).

Recent empirical research has demonstrated the growing significance of green sukuk in Islamic finance markets. Alkadi (2024) provides empirical evidence of green sukuk's momentum, showing increased issuance volumes and market acceptance. Liu and Lai (2021) conducted quantitative analysis revealing that green sukuk proceeds are predominantly allocated to environmentally sustainable initiatives, with measurable impacts on biodiversity preservation and climate change mitigation. Their study found that green sukuk issuances showed 23% higher environmental impact scores compared to conventional green bonds.

Santoso (2020) empirically analyzed the alignment between Islamic finance principles and environmental conservation, demonstrating through case studies that green sukuk structures maintain sharia compliance while achieving environmental objectives. The research identified three critical additional elements distinguishing green sukuk from conventional sukuk: green framework implementation, second opinion validation, and comprehensive impact reporting (UKIFC & UNDP, 2021).

Green Economy

The green economy concept emphasizes investment in various economic sectors to conserve natural resources and mitigate environmental risks (Bogovic & Grdic, 2020). This includes initiatives such as the adoption of renewable energy, low-carbon transportation,

energy-efficient buildings, clean technology, waste management, and sustainable forestry practices (Masdar et al., 2022). Green economy has become a national policy and is implicitly mentioned in Law No. 17 of 2007 concerning strategic development plans for the forestry sector. Furthermore, the green economy is being applied to a variety of government program sectors, including energy savings, clean energy and renewable energy, rapid bus transportation systems, low-water agriculture, and forest conservation (Feigin et al., 2023; Kılkış et al., 2024).

Apart from the ratification of this law, there are also a number of other policies taken by the government to deal with the issue of climate change. Some of these are explained in PP No. 24 of 2021 concerning Procedures for Carrying out Strategic Environmental Studies, and Presidential Decree No. 98 of 2021 concerning Implementing the Economic Value of Carbon to Achieve Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development (Skha, 2022)

Climate Change and Greenhouse Gases

According to the NRDC (Natural Resources Defense Council), which is an environmental activist organization based in the United States, it is explained that between 2030-2050, climate change will cause around 250,000 deaths per year due to malnutrition, diseases transmitted by insects, and heat stress (Lindwall, 2022). According to the United States Environmental Protection Agency, it identifies various consequences of climate change including increased health risks from heat waves, decreased water quality, threat of coastal flooding, changes in rainfall patterns, ecosystem disruption, and increased vulnerability to extreme weather events (EPA, 2018).

The greenhouse effect is a phenomenon that occurs in the Earth's atmosphere due to the influence of solar radiation. (Filonchyk et al., 2024). Major GHGs, including carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), contribute to global warming (Kwilinski et al., 2024), necessitating optimal emission control to balance economic activities.

RESEARCH METHODS

This research is a qualitative descriptive study. A qualitative approach was used to investigate the potential and impact of Green Sukuk issuance in Indonesia on handling greenhouse gas emissions. The types of data for this research are primary data and secondary data (Walliman, 2021). Primary data was collected through interviews with legal experts from the ministry of finance. Meanwhile, primary data was obtained from the green sukuk financial report from the Indonesian Ministry of Finance.

To collect data, a triangulation technique was applied which integrated literature study (Melfianora, 2019; Natow, 2020), document analysis and in-depth interviews (Chakrabarti & Frye, 2017). The interview was conducted online using a Zoom Meeting with two key sources from the Ministry of Finance of the Republic of Indonesia, namely Achmad Fauzi and Slamet Widodo, who provided valuable insight regarding the implementation and impact of Green Sukuk.

Data analysis was carried out through content analysis and thematic analysis, aiming to understand the characteristics of the content and explore the meaning behind the data (Narin, 2021; Vears & Gillam, 2022). This approach allows the identification of important themes and relevant inferences related to the research subject. Content analysis allows researchers to understand the content characteristics of the data collected and make relevant inferences. Meanwhile, thematic analysis was used to explore and understand the meaning behind the interviewees' words, providing in-depth insight into their perspectives on the issuance of Green Sukuk.

To avoid research bias, researchers critically evaluate all data sources and maintain objectivity throughout the data analysis process. Choosing a triangulation method also helps in mitigating potential bias by ensuring that research findings are supported by multiple sources and perspectives. The reason for choosing this method is primarily based

on the ability of a qualitative approach to reveal the context and complexity of the phenomenon under study in a way that a quantitative approach cannot offer. Through library research, researchers can explore relevant literature in depth, while interviews with experts provide exclusive insights that increase understanding of the topic. This entire process is designed to produce a comprehensive and insightful understanding of the dynamics of Green Sukuk issuance in Indonesia in the context of reducing greenhouse gas emissions.

RESULTS AND DISCUSSION

Green sukuk has a strategic role in efforts to reduce greenhouse gas emissions in Indonesia through the allocation of funds directed at projects that support sustainable development. Accordingly, Achmad Fauzi stated that the allocation of green sukuk funds is a form of commitment to follow the Sustainable Development Goals (SDGs) framework by meeting international green bond requirements that emphasize sustainability. Funds are allotted to initiatives that take proactive steps to combat climate change.

According to the OJK's 2022 report on the growth of Islamic finance in Indonesia, the issuance of green sukuk since 2018 is expected to reduce greenhouse gas emissions by 10.42 million tons of CO2, increase the capacity of environmentally friendly electricity generation by 7.36 kWh, improve waste management for 8.51 million households, and result in other environmentally friendly projects (OJK, 2022).

Five of the nine qualifying green industries are represented in the projects financed by the 2018 Green Sukuk issuance. The funds raised were used to refinance completed projects from the 2016 budget (51%) and finance new projects from the 2018 budget (49%). The issuance of green sukuk in 2018 was adjusted to the SDGs goals (DJPPR, 2024). USD 637.6 million was used to refinance projects in 2016. A total of 15 projects were refinanced. 67% of the funds were used to refinance projects from the Sustainable Transport Sector. The Waste to Energy and Waste Management and Renewable Energy sectors used 14% and 13% respectively, while the remaining 6% was used for the Energy Efficiency sector.

Table 1. The Sectors Financed by Green Sukuk in 2016-2019

Year	Sector	Allocation (USD)	Percentage
2016	Sustainable Transportation	426,535,842	67%
	Waste Management	92,598,527	14%
	Renewable Energy	80,176,104	13%
	Energy Efficiency	38,244,718	6%
	Total	**637,555,191**	**100%**
2018	Sustainable Transportation	772,805,236	62%
	Renewable Energy	102,519,477	8%
	Energy Efficiency	73,167,369	6%
	Disaster Risk Reduction	209,818,308	17%
	Waste Management into Energy	92,598,526	7%
	Total	**786,124,690**	**100%**
2019	Renewable Energy	41,262,073	5%
	Energy Efficiency	202,719,713	27%
	Disaster Risk Reduction	80,217,156	11%
	Waste Management into Energy	69,492,775	9%
	Sustainable Transportation	360,480,724	48%
	Total	**754.172.441**	**100%**

Year	Sector	Allocation (IDR)	Percentage
2020	Climate Change Resilience	5,346,760,828	37,39%
	Sustainable Transportation	8,952,704,665	62,61%

	Total	**14,299,465,493**	**100%**
2021	Climate Change Resilience	8,972,804,595,152	86.36%
	Sustainable Transportation	767,635,154,879	7.39%
	Waste to Energy and Waste Management	650,017,993,608	6.26%
	Total	**10,390,457,743,639**	**100%**
2022	Renewable energy	28,659,728,000	0.27%
	Climate Change Resilience	4,222,295,527,562	39.15%
	Sustainable Transportation	1,339,992,521,593	12.42%
	Green Building	2,071,092,632,974	19.20%
	Waste to Energy and Waste Management	744,918,319,052	6.91%
	Energy Efficiency	2,378,308,332,581	22.05%
	Total	**10,785,267,061,762**	**100%**
2023	New and Renewable Energy	36,937,716,480	0.17%
	Climate Change Resilience	5,246,528,742,273	24.77%
	Sustainable Transportation	3,984,217,085,420	18.81%
	Sustainable Natural Resource Management	6,304,715,421	0.03%
	Waste Management	32,702,226,378	0.15%
	Sustainable Water Systems	11,842,230,770,967	55.91%
	Green Building	33,026,145,975	0.16%
	Total	**21,181,947,402,914**	**100%**

Source: Directorate General of Financing and Risk Management, Ministry of Finance of the Republic of Indonesia, 2020-2023

Prior to the issuance of Green sukuk, the Republic of Indonesia issued a Green Bond and Green sukuk Framework indicating Green Projects that are eligible to receive funds. This framework is developed based on the Green Bond Principles (GBP). This framework has received a Second Party Opinion from CICERO and received a Medium Green Shade rating (DJPPR, 2020). The distribution of 2018 projects by sector includes 46% Sustainable Transport, 40% Climate Change Resilience for Highly Vulnerable Regions and Sectors/Disaster Risk Reduction, 4% Renewable Energy, and 10% Energy Efficiency.

The government issued retail green sukuk (ST007) worth IDR 5.4 trillion with a two-year tenor in the 2020 green sukuk issuance (DJPPR, 2021). The government issued a global green sukuk worth 750 million USD for the 2021 green sukuk (DJPPR, 2021). In the 2022 green sukuk issuance, the government issued global green sukuk of 1.5 trillion USD with a 10-year tenor and project-based green sukuk of 6.73 trillion rupiah with a 7-year tenor (DJPPR, 2023).

Resulting Effects of Green Sukuk Issuance

Overall, the issuance of Green Sukuk has an impact on 1) Renewable Energy, 2) Climate Change Resilience, 3)Sustainable Transportation, 4) Sustainable Natural Resource Management, 5) Green Building, 6) Waste to Energy Management and Waste Management, 7) Sustainable Water and Wastewater Management, 8) Disaster Risk Reduction. Refer to the table below for further information.

Table 2. Impacts Generated by Green Sukuk Issuance in 2018-2023

Year	Impacts	Magnitude of Impact
2018	Reduction of CO2 emissions	5.776.497,49 ton CO_2e
	a. Renewable energy	3.913.133,47 ton CO_2e
	b. Energy efficiency	355.394 ton CO_2e

	c. Sustainable transportation	1.711.615,93 ton CO_2e
2019	Reduction of CO2 emissions	3.218.014,41 ton CO_2e
	1. Renewable energy	1.319.620,41 ton CO_2e
	2. Energy efficiency	355.394 n CO_2e
	3. Disaster risk reduction	1.319.620,41 ton CO_2e
	4. Sustainable transportation	1.543.000 ton CO_2e
2020	Sustainable Transportation	
	1. Reducing greenhouse gas emissions	1.415.718 ton CO_2e
	2. Reducing average travel time	30 minutes
	3. Increasing the number of passengers	1.3 times more than 2.5 billion passengers switched from private to public transportation
	Disaster Risk Reduction	
	1. Fulfilling drinking water supply needs	275,5 m^3
	2. Protecting areas from flooding	1.920,4 Ha
	3. Rehabilitating tertiary irrigation network areas	134.700
	4. Developing tertiary water sources	1.71 it
	5. Creating and revitalizing rice fields covering an area of	12.000 Ha
	Waste to Energy Management	2,059,094 households
2021	1. Renewable Energy	
	Reducing greenhouse gas emissions per year	136.86 tons of CO_2e from rooftop PV installation 4,972 tons of CO_2e from installation of navigation aids at sea
	Producing clean energy	150 kWh from rooftop PV installation 2,456,654 kWh from marine navigation aid installations
	2. Sustainable Transportation	
	Reducing greenhouse gas emissions	197,564.8 tons CO_2e
	Waste to Energy Management	865.357 households
2022	a) Renewable energy	
	Reduction of greenhouse gas emissions	130,316.39 tons CO2e
	Climate Change Resilience	
	Increasing the service capacity of raw water structures and infrastructure	685 units of raw water and 50 km of groundwater irrigation network
	Reducing the vulnerability of urban and coastal areas to flooding	Rehabilitation of 233 km of river flood control and 98 km of coastal protection
	b) Waste to Energy Management	
	Water provision for agricultural areas prone to drought	±284,628 hectares of agricultural area

Source: Green Sukuk Allocation and Impact Report 2028-2023

This Study found that green sukuk plays a vital role in lowering greenhouse gas emissions through fund allocation, where the distribution of green sukuk funds follows the SDGs framework. Gren Sukuk allocated to climate change-related projects such as renewable energy, sustainable transportation, ecologically friendly waste management, green development, and wetlands. The disbursement of green sukuk funding represents the government's effort to tackle climate change, specifically greenhouse gas emissions".

Based on interviews conducted with Achmad Fauzi and Slamet Widodo (interview, 2023), it was found that Green Sukuk has an important role as a financial instrument in supporting the Indonesian government's efforts regarding the allocation of funds for sustainable projects, especially in the renewable energy and environmentally friendly transportation sectors. According to Nella Sri Hendriyetty, Head of the Center for Regional and Bilateral Policy at the Fiscal Policy Agency, Indonesia has great potential to develop a special budget allocation system intended for climate change mitigation and adaptation activities, known as Climate Budget Tagging. (Badan Kebijakan Fiskal, 2022).

More than US$3.9 billion was raised through the issuance of Green Sukuk, supporting the government's environmental projects and strengthening Indonesia's position in the global Islamic financial market. This shows that Green Sukuk can be an effective financial instrument in supporting sustainable projects that contribute to reducing greenhouse gas emissions.

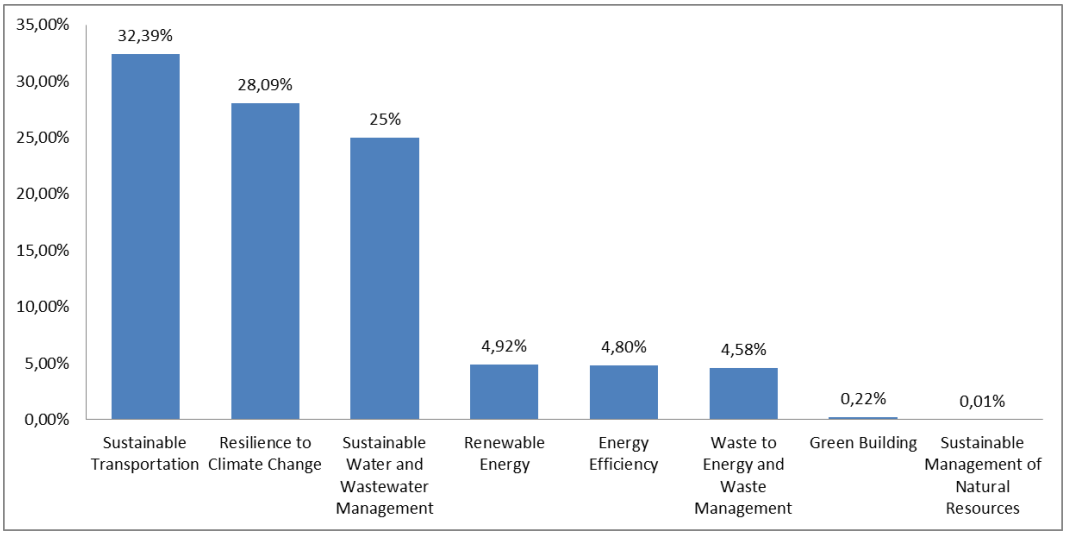

Figure 1. Cumulative Percentage Per Sector (2018-2022)

Source: Source: Green Sukuk Allocation and Impact Report 2028-2023, Processed Data

From table above, it is known that the allocation of funds from the issuance of Green Sukuk for the period 2018 to 2022 shows that the sustainable transportation sector received the largest allocation, reaching 32.39% of the total allocation. In addition, the allocation for the climate change resilience sector of 28.09%. Fund allocation of 25% for the sustainable water and waste management sector. Allocations to the renewable energy (4.92%) and energy efficiency (4.80%) sectors highlight the importance of switching to clean energy sources and improving energy efficiency.

Likewise, allocations for waste to energy management, green buildings and sustainable natural resource management show the importance of utilizing waste as an alternative energy source and building environmentally friendly infrastructure. Even though the percentage is small, the allocation for sustainable management of natural resources emphasizes the importance of nature conservation in sustainable development (Halkos & Gkampoura, 2021; Carlsen & Bruggemann, 2022; Medina-Hernández et al., 2023; Sorooshian, 2024). This reflects the Indonesian government's commitment to supporting sustainable development throughout the country.

Green Sukuk has an important role as a financial instrument that supports government efforts in sustainable projects in Indonesia. These findings emphasize that Green Sukuk not only functions as a financial instrument, but also as the main driver for the allocation of funds for sustainable projects, especially in the renewable energy and sustainable transportation sectors. Therefore, Billah and Adnan, (2024) affirm that environmentally friendly investments such as green sukuk are directed to be directly related to environmentally friendly and climate conscious projects that aim to reduce carbon emissions and advance renewable energy sources. As Abdullah and Nayan, (2020) emphasize, the importance of Green Sukuk is increasingly evident in the context of high development potential reinforced by demographic factors and a promising consumer market.

The research results highlight the crucial role of Green Sukuk as a financial instrument in supporting sustainable projects and tackling climate change in Indonesia. In line with research Abubakar and Handayani, (2020) that Green Sukuk is sustainable financing for green infrastructure. Even though the focus is more on the renewable energy and sustainable transportation sectors, the current findings remain consistent with the concept of using Green Sukuk to support sustainable projects.

Overall, this findings reinforce the urgency and effectiveness of Green Sukuk in supporting green infrastructure projects as well as a concrete solution in addressing climate change by reducing greenhouse gas emissions in Indonesia. This findings reflecting the evolution of understanding and implementation of this financial instrument for sustainable development (Ruggerio, 2021). Therefore, integrating sustainable financing in green sukuk can be an alternative investment platform that contributes to sustainable development.

In line with these finding, Fitrah and Soemitra, (2022) also revealed that Green Sukuk is not just a financial instrument, but also a real opportunity to encourage sustainable economic growth. Likewise, the research by Mutmainah and Romadhon (2023) emphasize that Green Sukuk can be a strategic key in market growth and increasing investor participation in the global Islamic financial market.

The research findings reflect a positive evolution since the development of green bonds and green sukuk. In addition, the results of this research illustrate a paradigm shift from viewing Green Sukuk as a financial instrument alone to a broader conception of its contribution to achieving sustainable development and overcoming the challenges of climate change in Indonesia. This research produces an in-depth understanding of Green Sukuk issuance, with a focus on the environmental impact of Green Sukuk on sustainable projects. Green Sukuk have significant potential in supporting the Indonesian government's efforts to reduce the impact of climate change, especially greenhouse gas emissions. Thus, Green Sukuk has become an effective financial instrument in supporting sustainable development and climate change mitigation in Indonesia.

Implementation of the results of this research could involve developing regulations that support more Green Sukuk issuance, increasing awareness and education, collaboration between the public and private sectors, and active participation in international forums. This is to ensure that Green Sukuk becomes the main instrument in supporting sustainable projects and tackling climate change in Indonesia (Alam et al., 2023). By implementing these steps, green sukuk can become the main driver in realizing sustainable development in Indonesia.

In addition, this research contributes to scientific development in the field of sustainable development. By considering environmental aspects, Green Sukuk can be developed to conserve the environment, natural resources, save energy, and encourage the use of renewable energy to achieve Sustainable Development Goals (SDGs). The development of Green Sukuk in sustainable development in Indonesia must be a commitment of all parties. The government has a strong commitment that sustainable investment focuses on sectors that support sustainable development and climate change mitigation, especially reducing greenhouse gas emissions.

CONCLUSION

The issuance of Green Sukuk in Indonesia shows encouraging developments in the funding of sustainable projects. The Indonesian government has shown a strong commitment to sustainable investment in areas that help sustainable development and climate change mitigation, including lowering greenhouse gas emissions, ever since the creation of the green bond and Green Sukuk framework. The research results highlight the vital role of Green Sukuk as a financial instrument that supports sustainable projects, especially in the renewable energy and sustainable transportation sectors.

These findings reflect the high potential for Green Sukuk development, driven by demographic factors and market enthusiasm, providing strong support for efforts to combat climate change, especially in the context of reducing greenhouse gas emissions. Thus, Green Sukuk not only acts as a financial instrument but also makes a real contribution in supporting sustainable development and overcoming climate change in Indonesia. This conclusion emphasizes the importance of Green Sukuk as an effective financial tool in achieving sustainable development goals, and continue to strengthen the development and implementation of Green Sukuk as a concrete solution in overcoming the challenges of climate change in the future.

This research is limited to the role of Green Sukuk issuance in Indonesia in efforts to overcome greenhouse gas emissions. There are still many gaps and opportunities for research regarding green sukuk. It is recommended that future researchers carry out an in-depth analysis of the factors that influence investors' decisions, perceptions and assessments regarding green sukuk on a different side to the research focus of this research.

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