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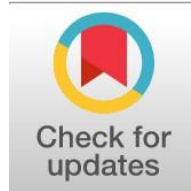
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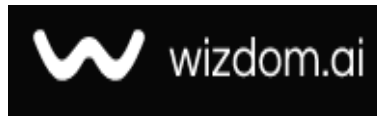
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Green Sukuk and Climate Budget Tagging for Sustainable Infrastructure Development

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Abstract

General Background: Sustainable finance and climate-responsive fiscal policy are central to Indonesia's transition toward a green economy and the financing of environmentally oriented public projects. **Specific Background:** Green Sukuk provides thematic Islamic financing for environmentally sustainable projects, while Climate Budget Tagging (CBT) identifies and monitors state-budget allocations for climate change mitigation and adaptation. **Knowledge Gap:** Previous studies have addressed Green Sukuk and green budgeting, whereas their joint contribution within a single empirical framework for Indonesian public infrastructure requires further assessment. **Aims:** This study analyzes Green Sukuk and CBT in relation to sustainable infrastructure development in Indonesia. **Results:** Panel data from seven ministries during 2018–2024 were estimated using a Fixed Effect Model. Green Sukuk and CBT jointly explained 89.86% of variation in sustainable infrastructure development. Green Sukuk recorded a positive coefficient of 0.037332, while CBT produced a substantially larger positive coefficient of 1.005269. The ministry-specific intercepts were negative, indicating declining development in the absence of these financing and budgeting mechanisms. **Novelty:** The study integrates thematic Islamic finance and climate-specific fiscal allocation within one ministry-level panel model. **Implications:** The findings support coordinated use of Green Sukuk and CBT for green project financing, climate-budget planning, transparency, accountability, and climate-oriented public expenditure.

Highlights:

- Fiscal allocation recorded the substantially larger regression coefficient.
- Thematic Islamic financing showed a positive association with public green projects.
- Seven ministries displayed negative intercepts without the two funding mechanisms.

Keywords: Sustainable Finance, Green Sukuk, Fiscal Instrument, Climate Budget Tagging, Sustainable Development

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Introduction

Since the Paris Agreement and Sustainable Development Goals (SDGs) were enacted, countries across the globe have increasingly shifted towards more environmentally friendly economic activities in an effort to reduce greenhouse gas emissions and enhance resilience to climate change. Indonesia has also embarked on a transition towards a sustainable green economy. One of the key initiatives undertaken by the Indonesian government is the development of sustainable finance through the issuance of green sukuk, initiated in 2018 as a response to environmental challenges and a strategic approach to sustainable development. The green sectors financed through green sukuk, in accordance with the SDG Framework, are classified under nine Eligible Sectors: resilience to climate change, energy efficiency, renewable energy, sustainable management of natural resources on land and in marine ecosystems, sustainable agriculture, energy and waste management, sustainable transportation, green buildings, and green tourism [1]. Green sukuk refers to a sovereign Islamic bond to support the implementation of national development priorities, specifically focusing on environmentally sustainable projects. These instruments are intended to mobilise capital for initiatives that contribute to ecological preservation and climate resilience [2], including renewable energy, sustainable transportation systems, climate adaptation measures, and efficient water and waste resources management [3], [4].

The underlying assets or infrastructure/projects financed through green sukuk are subject to monitoring under the Climate Budget Tagging (CBT) framework. Developed by the Ministry of Finance, CBT constitutes a budget management instrument grounded in sustainable finance principles, designed to ensure that green and sustainable development efforts are more measurable. This system tracks budget allocations related to climate change mitigation and adaptation, while presenting comprehensive data on activities, outputs, and the financial resources the government allocates [5]. Beyond serving as a mechanism to enhance budgetary transparency, the resulting data are essential references for evaluating and formulating climate-related budgeting policies and for reporting Indonesia's progress in achieving its climate change mitigation commitments [6]. The CBT process adheres to the national planning and budgeting cycle. Within this framework, relevant ministries and institutions undertake self-assessments regarding climate change mitigation and adaptation outputs, in alignment with national climate change policy objectives. To ensure the accuracy and credibility of the reported outputs, the review results are consulted with the Ministry of Finance, the Ministry of National Development Planning, and the Ministry of Environment and Forestry. The process further aims to identify outputs that have both direct and indirect impacts on emission reduction efforts [7].

At the G20 forum, it was stated that at least three actions can be undertaken to accelerate the achievement of Indonesia's SDGs while also contributing to economic recovery, including developing sustainable infrastructure [8]. Thus, there is a need for financing mechanisms that can support the rapid development of sustainable infrastructure. One such financing instrument that aligns with the characteristics of the Indonesian people and serves as green/environmental financing is green sukuk [3], [9]. Additionally, fiscal policies and budget management specifically targeting environmental issues are also required [6]. Therefore, this study aims to analyse the impact of green sukuk as an Islamic sustainable finance and a particular fiscal instrument in the environmental sector, namely CBT, on sustainable infrastructure development in Indonesia.

Several scholars have previously conducted studies on green sukuk and found that, in addition to adhering to Islamic finance compliance, green sukuk offers advantages that, when managed effectively, have the potential to contribute to achieving the SDGs in the areas of environmental sustainability and green infrastructure development, as well as fostering sustainable economic growth [10], [11], [12]. Moreover, the implementation of green budgeting, particularly for climate-resilient infrastructure development, is also deemed necessary [13], [14], [15]. Thus, the hypothesis that can be proposed is that thematic sustainable finance through green sukuk, along with a particular fiscal instrument for climate budgeting through CBT, can synergistically work to accelerate the development of green and sustainable economies.

Method

This study employs a pooled data method to analyse the role of green sukuk and Climate Budget Tagging (CBT) in achieving sustainable infrastructure development for climate change mitigation and carbon emissions reduction in Indonesia. These variables are integral to sustainable finance and fiscal instruments, while also driving the achievement of the SDGs [16], [17]. The data used in this study is secondary data, comprising both time series and cross-section. The analysis is based on annual data from 2018 to 2024, in trillions of Indonesian Rupiah units. This dataset includes financing values from green sukuk, CBT budget allocations, and the actual budget utilisation by seven ministries mandated to implement climate change mitigation and carbon emission reduction activities. The seven ministries are the cross-section objects, namely: the Ministry of Energy and Mineral Resources, the Ministry of Transportation, the Ministry of Industry, the Ministry of Agriculture, the Ministry of Marine Affairs and Fisheries, the Ministry of Environment and Forestry, and the Ministry of Public Works and Housing. The panel data regression equation model is as follows:

$$SID_{it} = \alpha + \beta_1 GS_{it} + \beta_2 CBT_{it} + e_{it} \quad (1)$$

The dependent variable, Sustainable Infrastructure Development (SID), refers to public green infrastructure projects carried out by the seven ministries, representing the output of the realised green infrastructure financing budget. The independent variables consist of sustainable finance, proxied by Green Sukuk (GS), which is a sovereign sukuk issued specifically to finance environmentally-friendly projects, and fiscal instruments, proxied by Climate Budget Tagging (CBT), a component of the state budget that allocates funds for climate change mitigation and adaptation activities. Additionally, α represents the constant, β_1 and β_2 are the regression coefficients, i denotes the cross-sectional data unit, t represents the time series data

unit, and e is the error term.

Results and Discussions

The first step in the panel data regression process is to determine the appropriate estimation model, whether it is the Common Effect Model, the Fixed Effect Model, or the Random Effect Model. Three tests are employed to identify the most suitable model: the Chow Test, the Hausman Test, and the Lagrange Multiplier Test. The estimation model determination test is presented in Table 1 below.

Table 1. Estimation Model Determination Test

Estimation Model Determination	Probability	Decision
Chow Test (Cross-section F)	0.0000	Fixed Effect Model
Hausman Test (Cross-section Random)	0.0000	Fixed Effect Model

The Chow Test aims to determine the appropriate estimation model between the Common Effect Model and the Fixed Effect Model for further panel data processing. Examining the Cross-section F probability value at the 0.05 alpha level, which is 0.000, indicates statistical significance. Therefore, the panel data model deemed most suitable based on the Chow Test is the Fixed Effect Model.

Next, the Hausman Test evaluates which model is most appropriate for panel data processing, between the Random Effect and Fixed Effect Models. The Cross-section Random value of 0.000, which is smaller than the 0.05 alpha level, indicates statistical significance. Thus, according to the Hausman Test, the Fixed Effect Model is suitable for panel data analysis.

The Lagrange Multiplier test is used to identify the correct model between the Random Effect and Common Effect Models. Since the Chow and Hausman Test results indicate the Fixed Effect Model, the Lagrange Multiplier test is no longer necessary. Consequently, the decision is made to use the Fixed Effect Model for the panel data regression analysis.

The next step is to estimate the Fixed Effect Model through the panel data regression significance test, with the following summary of results at the table 2 below.

Table 2. Panel Data Regression Results Summary

Dependent Variable: SID (Sustainable Infrastructure Development)				
Independent Variable	Adjusted R-Squared	F-Test (Prob.F-statistic)	t-Test (Probability)	Coefficient
GS (Green Sukuk)	0.898605	0.000000	0.0584	0.037332
CBT (Climate Budget Tagging)			0.0000	1.005269

The Adjusted R-squared result for the independent variables is 0.898605, which means that the independent variables in the panel data model explain approximately 89.86 per cent of the variation in the dependent variable, while other independent variables outside the model explain the remaining 10.14 per cent. This suggests that Green Sukuk and Climate Budget Tagging (CBT) can effectively explain Sustainable Infrastructure Development.

Next, the F-test yielded a result of 0.000000, smaller than the significance level of alpha 0.05. This indicates that the independent variables, Green Sukuk and Climate Budget Tagging, jointly have a significant impact on the dependent variable, Sustainable Green Infrastructure Development.

Subsequently, the t-test was conducted to assess the impact of each independent variable, Green Sukuk and CBT, on the dependent variable, Sustainable Infrastructure Development. The probability value for Green Sukuk was found to be 0.0584, which is approximately equal to the alpha level of 0.05. Then, the probability for CBT was 0.0000, which is below the alpha level of 0.05. This indicates that both Green Sukuk and CBT have a significant impact on sustainable green infrastructure development, with CBT having a much larger effect compared to Green Sukuk.

The panel data regression yields the following equation:

$$SID = -2.706481 + 0.037332 \text{ GS} + 1.005269 \text{ CBT} \quad (2)$$

In the regression model, the constant value is -2.706481, meaning that if the issuance of Green Sukuk and the budget allocation for climate change mitigation and adaptation through Climate Budget Tagging (CBT) were zero, the sustainability of green infrastructure development in Indonesia would decrease by approximately 2.7 per cent.

Green Sukuk has a positive coefficient of 0.037332 (prob 0.0584), which indicates that for every 1 per cent increase in the issuance of green sukuk, there will be a significant increase in the sustainability of infrastructure development, specifically in green infrastructure, with an approximate increase of 0.037 per cent.

Climate Budget Tagging (CBT) has a positive coefficient of 1.00526 (prob 0.000), meaning that for every 1 per cent increase in the allocation for climate change mitigation and adaptation projects through CBT, sustainable green development will increase by approximately 1 per cent.

In the panel data analysis, where the estimation model is the Fixed Effect Model (FEM), it becomes possible to explore a more detailed and in-depth interpretation of the regression results. FEM generates regression equations for each unit of cross-sectional data, where the constant/intercept values for each unit differ, allowing for a more specific interpretation of each unit of cross-sectional data [18]. This study includes seven cross-sectional data units, which are represented by the following seven ministries: the Ministry of Energy and Mineral Resources, the Ministry of Transportation, the Ministry of Industry, the Ministry of Agriculture, the Ministry of Maritime Affairs and Fisheries, the Ministry of Environment and Forestry, and the Ministry of Public Works and Public Housing. Each of these ministries has a distinct influence on the sustainability of infrastructure development. Table 3 Below is a summary of the constant/intercept values for each ministry.

Table 3. Summary of constants/intercepts of each cross-section unit of FEM

Cross-section Data	Intercept/Constant
Ministry of Energy and Mineral Resources	-0.563834
Ministry of Transportation	-3.09049
Ministry of Industry	-0.844473
Ministry of Agriculture	-0.568737
Ministry of Maritime Affairs and Fisheries	-1.930048
Ministry of Environment and Forestry	-0.569336
Ministry of Public Works and Public Housing	-11.378449

It was found that all constant values for the seven ministries show a negative intercept. This indicates that without sustainable financing from green sukuk and the allocation of CBT funds specifically earmarked for climate change adaptation and mitigation, the sustainable green infrastructure development led by these ministries would decrease. The reduction in development ranges from the most minor decrease of approximately 0.5 per cent in the Ministry of Agriculture, the Ministry of Environment and Forestry, and the Ministry of Energy and Mineral Resources. Larger reductions occur in the Ministry of Industry, the Ministry of Marine Affairs and Fisheries, and the Ministry of Transportation, with a decrease ranging from 1 to 3 per cent. The most significant impact is in the Ministry of Public Works and Housing, where, in the absence of support from sustainable financing through green sukuk and CBT budget allocations specifically for climate change adaptation and mitigation, the sustainable green infrastructure development could decrease by as much as 11 per cent.

The findings of this study suggest that while the impact of financing through Green Sukuk is positive and statistically significant, it is still relatively not optimal when compared to the readiness of budget monitoring specifically allocated for green economy development. This could be attributed to the fact that, despite its potential, investor awareness and understanding of green sukuk remain low, which hampers the growth of this financing [19]. Furthermore, from the issuer's perspective, there is a limited number of issuers, with corporate Green Sukuk issuers being particularly scarce, as most of the Green Sukuk available are sovereign-issued [20]. It would be highly beneficial if the private sector were encouraged to issue Green Sukuk as well. Another factor is that the projects or infrastructure financed by Green Sukuk not only need to meet the criteria for green development feasibility, but also must meet Islamic compliance. As a result, the projects financed by Green Sukuk are highly selective and still limited in number [21]. Additionally, the ministries designated to utilise Green Sukuk financing should coordinate with local authorities, as many regions in Indonesia present significant potential for green infrastructure development financed by Green Sukuk [21].

Furthermore, the findings of this study reveal that Climate Budget Tagging (CBT) for climate change mitigation and adaptation infrastructure/projects has a positive and significant impact on sustainable green development, particularly public infrastructure. When the CBT instrument is effectively implemented, it can ensure that public budgets align with climate commitments, ultimately supporting the development of green economy [22]. Additionally, effective budget tagging not only enhances the transparency of climate-related expenditures but also attracts green investment, which is crucial for the growth of the green economy [23]. In line with this, several other archipelago countries have already implemented the fiscal instrument CBT within their national budgets, with positive results that have boosted the achievement of the SDGs, such as North Macedonia and Seychelles [24]. Moreover, CBT helps governments within the fiscal space by facilitating decisions regarding budget allocation and the reallocation of resources from underperforming or non-performing climate change activities to other priority climate actions [25]. Furthermore, a well-established CBT system can enhance access to green financing and play a key role in demonstrating a country's eligibility for international support in sustainable green development [26].

The findings regarding the intercept values for the seven ministries indicate that without synergistic support from sustainable financing through green sukuk and the specific budget allocation for climate change adaptation and mitigation through CBT, the sustainable infrastructure development driven by these ministries would decline. Previous literature has also found that implementing green sukuk and Climate Budget Tagging (CBT) plays a crucial role in promoting green infrastructure development across various ministries in Indonesia by increasing fund allocation and improving efficiency in managing sustainable projects [21]. The issuance of green sukuk by the government has supported projects in the renewable energy, sustainable transportation, and waste management sectors, involving the Ministry of Energy and Mineral Resources and the Ministry of Transportation [10]. The funds obtained through green sukuk have been used by the Ministry of Energy and Mineral Resources to finance renewable energy projects, such as solar and wind power plants, which contribute to

green infrastructure development [28]. Additionally, collaboration between the Ministry of Public Works and Housing and the Ministry of Industry in utilising green sukuk can accelerate sustainable infrastructure development in Indonesia [28], [29]. The state budget with the Climate Budget Tagging (CBT) post has helped ministries such as the Ministry of Environment and Forestry and the Ministry of Agriculture to identify and allocate funds for green initiatives, thereby enhancing efficiency and transparency in budget management [30]. Likewise, CBT has enabled the Ministry of Marine Affairs and Fisheries and the Ministry of Transportation to focus more on projects that support climate change adaptation and mitigation, thereby encouraging the development of green infrastructure [31].

Conclusions

Sustainable financing, in the form of thematic financing such as Green Sukuk, alongside specific fiscal instruments for climate change adaptation and mitigation, namely Climate Budget Tagging (CBT), has synergistically had a positive and significant impact in accelerating green infrastructure development in Indonesia. The tagging system facilitates various ministries in planning and implementing development budgets with a focus on green infrastructure, while also aiding the Ministry of Finance monitor the progress of budget allocations to ensure transparency and accountability.

CBT as part of the state budget, is still relatively new and requires further research for its advancement, such as benchmarking the performance of CBT in other developing countries to garner more international support. Additionally, it is recommended that the government increase efforts to socialise and provide incentives for the issuance of green sukuk to the private sector, while also forging more partnerships with international stakeholders. This would align Indonesia's green sukuk framework with global green bond frameworks, thereby attracting more international capital for green development in Indonesia. Furthermore, numerous regions throughout Indonesia have high potential for green sukuk funding, and it is recommended that central ministries coordinate with local governments to tap into these opportunities.

References

- [1] A. Rahman, A. U. F. Ahmad, S. A. Bin-Nashwan, A. Muneeza, A. H. Abdul Halim, and R. Markom, "Policy approach adopted for issuance of Green Sukuk: Is priority given to priority needed areas?," *Journal of Islamic Accounting and Business Research*, vol. 15, no. 5, 2024, doi: 10.1108/JIABR-10-2022-0279.
- [2] K. Musari, "Green Sukuk, Islamic Green Financing," in *Handbook of Research on Climate Change and the Sustainable Financial Sector*, 2021, pp. 1–16, doi: 10.4018/978-1-7998-7967-1.ch001.
- [3] L. Abubakar and T. Handayani, "Green Sukuk: Sustainable Financing Instruments for Infrastructure Development in Indonesia," *Atlantis Press*, May 2020, doi: 10.2991/assehr.k.200529.206.
- [4] N. Qosim, R. T. Ratnasari, A. K. Wardhana, H. Fauziana, and T. T. Barkah, "Eight Years of Research Related to the Green Sukuk in the Global Stock Exchange Market to Support the Implementation of SDG: A Bibliometric Review," *Journal of Islamic Economic and Business Research*, vol. 3, no. 2, 2023, doi: 10.18196/jiebr.v3i2.204.
- [5] C. Pindiriri and M. Kwaramba, "Climate finance in developing countries: Green budget tagging and resource mobilization," *Climate Policy*, pp. 1–15, Jan. 2024, doi: 10.1080/14693062.2024.2302325.
- [6] Z. Z. Mutiara, D. Krishnadianty, B. Setiawan, and J. T. Haryanto, "Climate budget tagging: Amplifying sub-national government's role in climate planning and financing in Indonesia," in *Springer Climate*, 2021, doi: 10.1007/978-3-030-55536-8_13.
- [7] R. Pizarro, R. Delgado, H. Eguino, and A. Lopes Pereira, "Climate Change Public Budget Tagging: Connections across Financial and Environmental Classification Systems," *Washington, D.C.*, Jan. 2021, doi: 10.18235/0003021.
- [8] J. M. T. Ismail, R. E. Caraka, P. U. Gio, R. C. Chen, and B. Pardamean, "Regional Statistics: Exploiting the leading potential of Indonesia through strategic alliances with the G20 and SDG-aligned policy making," *Regional Statistics*, vol. 14, no. 5, pp. 839–861, 2024, doi: 10.15196/RS140502.
- [9] F. Faizi, A. S. Kusuma, and P. Widodo, "Islamic green finance: Mapping the climate funding landscape in Indonesia," *International Journal of Ethics and Systems*, 2024, doi: 10.1108/IJOES-08-2023-0189.
- [10] R. Fitrah and A. Soemitra, "Green Sukuk for Sustainable Development Goals in Indonesia: A Literature Study," *Jurnal Ilmiah Ekonomi Islam*, vol. 8, no. 1, p. 231, Mar. 2022, doi: 10.29040/jiei.v8i1.4591.
- [11] L. Hendra, R. Gusliana Mais, and P. Rizky Cahyani, "Analysis of Green Sukuk Potential Against Green Infrastructure in Bekasi City," *JEBa (Journal of Economics and Business Analytics)*, vol. 7, no. 2, 2023, doi: 10.33476/jeba.v7i2.3412.
- [12] M. H. Fahamsyah, A. M. Taftazani, A. S. Rakhmat, and M. H. A. Yaqin, "Ecologies of green finance: Green Sukuk and development of green Infrastructure in Bekasi Regency on SWOT Analysis," *Enrichment: Journal of Management*, vol. 13, no. 3, pp. 2113–2122, 2023, doi: 10.35335/enrichment.v13i3.1574.
- [13] A. Rakatama, D. A. Maharani, D. Syafrin, and F. R. Yuniarti, "Green financing for climate resilience and low-carbon development in Indonesia: Viewpoints for the road ahead," 2023, doi: 10.1080/09614524.2023.2295790.
- [14] F. Zen, W. Saputra Zen, and W. Saputra, "Enhancing Climate-Resilient Infrastructure Development in Indonesia," 2023.
- [15] A. A. Patunru and B. P. Resosudarmo, "Climate Change Policies in Indonesia: Challenges and Economic Consequences," 2024, pp. 97–121, doi: 10.1007/978-981-97-0122-3_6.
- [16] F. Taghizadeh-Hesary, H. M. Thas Thaker, M. I. Bhatti, and M. A. Mohd Thas Thaker, *Islamic Finance and Sustainability*. London, U.K.: Routledge, 2025, doi: 10.4324/9781003518617.
- [17] N. M. Saad, "Green Sukuk Investment and Renewable Energy Consumption for Sustainable Development Growth," *Pakistan Journal of Life and Social Sciences (PJLSS)*, vol. 23, no. 1, 2025, doi: 10.57239/PJLSS-2025-23.1.00481.
- [18] I. G. N. Agung, *Panel Data Analysis using EViews*, 2013, doi: 10.1002/9781118715543.
- [19] Y. A. Faisal, I. Gunawan, Cupian, A. Hayati, A. Apriliadi, and M. Fajri, "Examining the Purchase Intentions of Indonesian Investors for Green Sukuk," *Sustainability*, vol. 15, no. 9, 2023, doi: 10.3390/su15097430.
- [20] F. Adzimatinur, R. Olii, D. Fajria, and T. Japal, "The Evolution of Green Sukuk in Indonesia," in *Proc. ICIEB 2024*, FEBI UIN Sunan Kalijaga Yogyakarta, 2024.

- [21] I. R. Santoso, "Green Sukuk and Sustainable Economic Development Goals: Mitigating Climate Change in Indonesia," *Global Journal Al-Thaqafah*, vol. 10, no. 1, pp. 18–26, Jul. 2020, doi: 10.7187/GJAT072020-3.
- [22] OECD, "Beyond Green Tagging: Linking Budgets Better with Climate Goals," Paris, France, Jun. 2024.
- [23] The World Bank, "Roundtable Discussion: Climate Budget Tagging and Engaging with Investors," Sep. 2022.
- [24] M. Upadhya, "Climate Budget Tagging in The Republic of North Macedonia," Macedonia, 2021.
- [25] A. Fernandez, A. Tripathi, and G. Magazi, "Developing a Framework for Climate Budget Tagging," 2024.
- [26] M. Petrie, "The Evolution of Green Budgeting," in *Environmental Governance and Greening Fiscal Policy: Government Accountability for Environmental Stewardship*. Cham, Switzerland: Palgrave Macmillan, 2021, pp. 61–108, doi: 10.1007/978-3-030-83796-9_4.
- [27] O. Al-Jayyousi, E. Tok, S. M. Saniff, W. N. Wan Hasan, N. A. Janahi, and A. J. Yesuf, "Re-Thinking Sustainable Development within Islamic Worldviews: A Systematic Literature Review," *Sustainability*, vol. 14, no. 12, 2022, doi: 10.3390/su14127300.
- [28] D. Rulliadi, "A Climate Budget Tagging and Green Sukuk: An Indonesian Experience," Helsinki, Finland, Feb. 2019.
- [29] D. V. Araminta, Q. Qudziyah, and Y. P. Timur, "The role of green Sukuk in realizing the Sustainable Development Goals 2030 Agenda," *Jurnal Ekonomi dan Bisnis Islam (Journal of Islamic Economics and Business)*, vol. 8, no. 2, pp. 251–266, 2022, doi: 10.20473/jebis.v8i2.37531.
- [30] I. Basuki et al., "Reforestation Opportunities in Indonesia: Mitigating Climate Change and Achieving Sustainable Development Goals," *Forests*, vol. 13, no. 3, Mar. 2022, doi: 10.3390/f13030447.
- [31] C. Agus, P. B. Putra, A. P. Kusumaningrum, N. A. I. Hasanah, and P. A. B. Cahyanti, "Climate Change and Sustainable Development Goals Program in Indonesia," in *Handbook of Climate Change Management: Research, Leadership, Transformation*, vol. 5. Cham, Switzerland: Springer International Publishing, 2021, pp. 3865–3886, doi: 10.1007/978-3-030-57281-5_18.