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THE DEVELOPMENT OF GREEN FINANCING IN INDONESIA: INSIGHTS FROM INVESTORS

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ABSTRACT

In recent years, as the world's economic development mode has gradually changed from high-speed development to high-quality development, the green development mode has attracted more and more attention, especially the financial support for green development. With several countries signing the carbon neutral agreement at the G20 Climate Summit, it has become a pressing issue for major financial institutions in the world's major countries to quickly promote green finance business under the policy orientation and seize the competitive advantage in the market. This study aims to understand the development of green financing in Indonesia from experienced investors. This study interviewed a number of green finance investors through interviews, and we hope to obtain more information about their perspectives on green finance, which are usually always associated with Corporate Social Responsibility (CSR) actions, corporate environmental responsibility perceptions, and investor's concerns about the company's sustainability strategy, which influences their investment decisions and provides a theoretical basis and empirical reference for the green finance strategy decisions of relevant financial institutions. provides a theoretical basis and empirical reference.

Keywords: *Green finance; Development strategies;*

1. Introduction

Increased economic expansion and population pressure are increasing greenhouse gas emissions and severely harming human and ecological systems, and the consequences are now more severe than ever. Ecological disasters, food crises, global warming, environmental degradation, resource depletion, and other issues are posing becoming more challenging and have matured into global issues that must be addressed immediately (Jiakui et al., 2023). The United Nations also acknowledged the issue by establishing the Sustainable Development Goals (SDGs), which require several nations to shift from economic growth to green productivity practices such as green finance, green innovation, and so on, implying collaboration between the economy, resources, and ecological development to achieve those goals.

Figure 1. Sustainable Development Goals Investment Initiative
(Source: UNDP, 2015)

Considering this condition, several countries in ASEAN that also facing environmental crisis due to heavy reliance on fossil fuels also begun to progress their green economies (Sadiq et al., 2023). As Figure 2 shows, Indonesia as a developing country has had enormous expansion over the previous three decades and is now the sixth largest producer of greenhouse gas emissions (Sasana & Putri, 2018). Despite the fact that it is obvious how crucial green finance is in decreasing environmental concerns such as CO_2 emissions, empirical studies on the development of green financing in Indonesia investor perspective have yet to be conducted. Therefore, currently Indonesia is struggling to strike the correct balance between rapid economic expansion and green transformation.

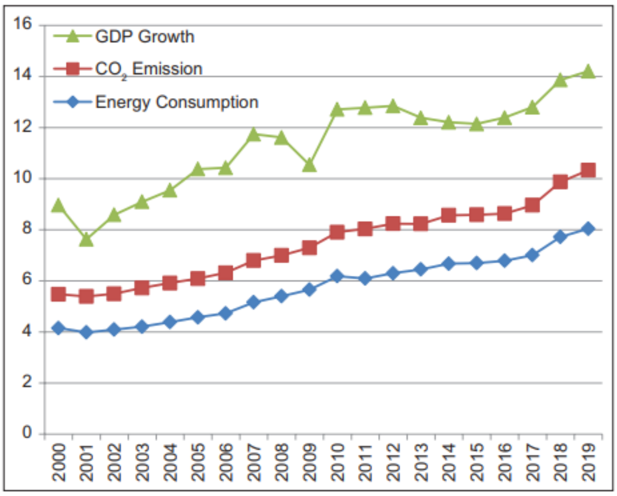

Figure 2. Economic growth, energy consumption and carbon emissions over 2000-2019 period in Indonesia
(Souce: World Development Indicators, 2022)

According to Debrah et al (2022), green finance refers to financial instruments that facilitate the transition to a climate-resilient economy by supporting efforts such as environmental protection through reduced greenhouse gas (GHG) emissions and energy usage, as well as the creation of climate-resilient infrastructure. Green Financing's primary financial tools are debt and equity. The debt and equity components are the finest investments for constructing a financial sector with an environmental perspective. The equity can refer to the shares of firms that have been oriented toward long-term environmental sustainability, as measured by the company's production that has an influence on the environment.

Indonesian government is making effort in providing many substantial green finance instruments, such as Green Sukuk bonds, to support a healthy environment and sustainable development (Tiawon & Miar, 2023). Indonesia capital market also have the Sri Kehati Index that adheres to Sustainable and Responsible Investment (SRI) principles and rules, aims to enhance public awareness and assist pro-environmental investors by choosing 25 highly rated public firms that comply to the internationally acknowledged green business standard (Rizti & Martawardaya, 2022).

In recent years, as the problem of environmental pollution has become increasingly serious, the Indonesia government have become vocal about sustainable development and the fulfilment of corporate social responsibility (CSR). Additionally, Indonesia has pledged to achieve green development goals by 2030 established in Indonesia's Medium-term National Development Plan (RPJMN 2021-2024). CSR itself often be linked when researcher talk about green finance and environmental, social, and corporate governance (ESG) –because part of action and outcome. Research by Chen et al (2022) has study regarding strategies of green reform in carbon-intensive industries and provides implications for emerging economies to improve green finance via enhancing corporate social responsibility (CSR). However, the effects of investment decision have been less explored.

Investments in clean energy technologies are driving the move to sustainable energy deployment. Maghyereh et al (2019) stated that like other investment options, the return and risk prospects of the clean energy sector have been of major concern to both portfolio managers and regulators. As a result, there is a growing body of study on return co-movement, dynamic dependency, and volatility spillovers between clean energy and other asset classes (Mzoughi et al., 2022). It shows the risk of green supply chain need further study on how it affects investor decision.

Green economic development is primarily driven by green technological innovation, which is backed by environmental laws and green finance. The market is less incentivized to self-regulate due to the high risks, high costs, and positive externalities of green economic development (Yin et al., 2023). Environmental regulation, according to Behera & Sethi (2022), is one of the incentives for green economic development and a significant feature and method for local governments to encourage sustainable growth. So, it is important to investigate does government policy that related to green financing affect investor decision on doing their investment.

This study aims to qualitatively explore the development of Green Financing in Indonesia from the investors' point of view. Specifically, it seeks to understand investors' perspectives on Green Financing, the linkages between corporate social responsibility and investment decisions, the perceived risks associated with green supply chains, and the influence of government policies on investment decisions. To do this, the study will employ qualitative research methods, particularly in-depth interviews experienced investors invest in green finance in Indonesia. These qualitative methodologies will allow for a more nuanced understanding of investor perspectives, attitudes, and green finance decision-making processes.

2. Literature Review

2.1 Green Finance Theory

According to Prisandy & Widyaningrum (2021), Green Finance Theory is a theory that plays an important role in realizing the harmony between environmental protection and economic expansion. This promotes environmental sustainability, induces investment in the environmental sector, and encourages companies to adopt sustainable practices. Green Finance is emerging as an effective financial method that brightens

the future of the economy and responds to environmental issues.
Green Finance promotes the growth of the green economy through the convergence of environmental protection and finance and encourages companies to practice environmental responsibility. This acts as a key to improving the company's long-term performance and improving competitiveness. These financial theories motivate sustainable development and environmental protection, helping to evolve the future economy into a sustainable and green economy.

2.2 Green Financing Investment

The finance in the green field is green finance. In order words, if a fund supplier provides funds to green companies through a financial company or a capital market, a green company can define the circulation process that returns to the funds and returns to the fund supplier (Prisandy & Widyaningrum, 2021). Green finance includes financial tools and methods to promote environmental sustainability and to promote the shift to a low-carbon economy. This includes the use of financial resources to support projects that have a positive impact on environments such as sustainable transportation, green buildings, renewable energy and energy efficiency.

According to Ye & Dela (2023), green financing investment refers to investments that aim to mitigate the negative effects of human activities on the environment and promote the shift toward a sustainable, low-carbon, and resource-efficient economy using a type of able energy, energy efficiency, and sustainable transportation. As the importance of climate change and sustainable development increases, green investment is emphasized. These investments have the potential to provide environmental, social and economic advantages through a sustainable and low-carbon economy. In particular, renewable energy investment emphasizes the possibility of leading the transition to green investment and low -carbon economy, reducing greenhouse gas emissions and environmental impacts, promoting economic growth, creating new jobs to improve human welfare.

Green investment emphasizes sustainability by promoting sustainable economic development and harmonious development of society and minimizing negative environmental impacts such as energy use and carbon emissions. This is transparent in the company's annual report. Society and stakeholders determine the achievements and influence of green investment, and companies can realize sustainability and contribute to a peaceful society.

2.3 Corporate Social Responsibility

Corporate Social Responsibility (CSR) is a key element of business operations, indicating the concept of voluntary efforts for the company to have a positive impact on the market, the environment and society. Companies that integrate corporate social responsibility (CSR) into their operational and strategic planning will benefit stakeholders and maximize their medium-term to long-term economic and social value (Azwani Aulia et al., 2023). The CSR emphasizes the close interdependence between society and the company and defines how to solve and maintain corporate social, economic and environmental obligations. This emphasizes the connection between the environment, society, and the economy, and all of them are recognized as part of sustainable business performance (Sasana & Putri, 2018).

CSR also encourages companies to focus on sustainable development and strategic approaches. Companies are trying to maximize the benefits of CSR in the new market, where social and economic problems are rapidly spreading, and business ethics plays an important role. CSR can integrate environmental issues into business operations, and establish standards that protect the environment, social and economic environments of the community (R. Elyn et al., 2022). In addition, companies try to improve the environment to increase demand for eco-friendly products, increase customer loyalty and improve green brand positioning. In this way, companies recognize CSR as a means of creation of important economic and social value, and research on sustainable business performance and green investment, and interactions between green financing further emphasize this view.

2.4 Perceived Green Finance Policy

According to Ozili (2022), a green finance policy is a set of guiding principles that directs the creation of green financial products, the procurement and application of funds for environmentally friendly projects, and the actions of the players in the lower sector. Green finance policies delineate the principles or regulations that govern the allocation of financial resources towards sustainable development projects and environmental products. The government supports the economy’s environmentally and economically sustainable development by creating a system to encourage the development of green finance (Prisandy & Widyaningrum, 2021). Consumers' perception of the role of individuals, government and industry in environmental protection is a study on green purchases, when consumers think that the government is strong responsibility for environmental protection, they buy green products (Rahbar and Wahid, 2010). This is more likely to buy green products when consumers evaluate the government's environmental activities positively, and investors are more likely to investigate consumers behavior and invest in green finances.

2.5 Supply Chain Risk in Green Financing Investment

According to Walter (2020), green financing Investment mainly includes several kinds of risks like supply and demand risks for green funds, risks related to the government sector, and risks associated with the green financial market. The risks of green finance investment have always existed objectively and cannot be avoided (Fernandes et al., 2014). The concept of "green supply chain" was officially presented in the study of "environmental responsibility manufacturing", and the environmental factor was added to the supply chain model and designed a large supply chain model. Specifically, the risk of green supply chain means unexpected events that can affect the supply of green or environmentally friendly materials and interfere with the normal trend from the origin of green materials and products to business consumption (Hailei Zhao, 2023). This risk in business operation has a direct impact on the behavior of investors and companies in green financing and has a potential impact on investment decisions due to the uncertainty of reliable and sustainable green materials.

2.6 Research GAP

According to Zeyun Li et al (2021) and Widiatmaka et al (2022) corporate social responsibility (CSR) has a significant impact on investors investing in green finance. When a company actively participates in CSR, investors can attract investors who are pursuing the company's reputation and pursuing sound and eco-friendly investments in financial and ethically. However, it has been suggested by Helena Vieira (2015) that CSR may negatively affect financial performance by raising expenses, lowering profits, and lowering shareholder value. The perceived green financial policy has a significant impact on investors' green investment behaviours based on research conducted by Zhang (2020), this perception is transformed into investment behaviour (Nelson, 2019), but awareness with the importance of green financial policy has not been researched further. It shows that there is a subtle relationship between policy awareness and investment decisions. According to Wang and Liu (2018), the risk of supply chain for green products has a significant negative impact on investor's green financial investment and on the decision to stop investing, however Mingze Tang (2020) Investors suggest that they may not change their investment strategy. These controversial results indicate that it is necessary to analyse the influences of these three factors on the investor's green financing investment behaviour.

3. Research Method

Qualitative research qualitative research employed in this research is a method or perspective for studying things from their intrinsic prescriptive point of view, based on the properties that social phenomena or things have and the contradictory changes that occur during their movement (Cissé & Rasmussen, 2022). Qualitative research relies on describing and understanding the meanings, characteristics, metaphors and symbols of things, and it describes and interprets the thing under study in terms of its contradictory nature, based on universally recognized axioms, a set of deductive logic and a large number of facts as the basis of analysis (Aspers & Corte, 2021).

The study sample includes at least five green finance investors who were chosen for their active engagement and experience. All participants have at least three years of investment expertise in green finance. The major data collecting approach is in-depth interviews. "How do you think about green finance in Indonesia?" is the major interview question. This open-ended methodology allows for a thorough examination of investor viewpoints. As appropriate, follow-up questions and focused queries are used to encourage participants to disclose particular events or circumstances relating to their green financial experiences. The research examines the collected data, taking into account not just the insights offered during interviews, but also cross-referencing with publicly available information such as statistics yearbooks and pertinent rules. This combination of data sources improves the study's comprehensiveness and dependability. Before the interviews, all participants are guaranteed of confidentiality, and their informed consent is sought. The study follows ethical rules to protect participants' privacy and well-being.

The interviews were structured as follows:

1. Opening questions about the interviewees' background (occupation, how long have been interviewees invest in green finance instrument, what kind of instrument).
2. Question regarding factors/principles guide of their investment decision in the green finance instruments.
3. Question regarding their action and concern in green investment towards environmental and social.
4. Question regarding companies' integration of CSR values influences interviewee investment decisions in green finance.
5. Question regarding how interviewee's perception towards green finance policies on investment decision.
6. Question to examine interviewees' perception and respond to supply chain risks and environmental factors.
7. Question about how they evaluate the return and risk on green investment initiatives.
8. Question about challenges and opportunities they see towards green investment.

Through these interview question, it is hoped that in obtaining in-depth responses and insights in the field of green finance as well as industry knowledge to support our research, a better understanding of green finance investment intentions, Corporate Social Responsibility, Supply Chain Risk in Green Financing Investment and Perceived Green Finance Policy. and to draw conclusions based on the interviews that will contribute to a more comprehensive understanding of the green finance field.

4. Results and Discussion

4.1 Investor Preferences and Ethical Alignment in Green Finance

The large majority of respondents (4 out of 6) actively participate in green sukuk, green equities, and funds, highlighting a rising trend in connecting investment decisions with environmental principles and sustainability objectives. Investors are increasingly realizing that green sukuk, equities, and funds have the potential to not only provide financial rewards but also contribute to environmental sustainability. This ethical alignment of investments is congruent with the larger movement toward responsible and sustainable investing, in which investors seek not just financial gains but also to positively contribute to societal and environmental concerns (Sparkes & Cowton, 2004). Participants' selection of a varied variety of green instruments demonstrates a comprehensive grasp of the numerous pathways available for aligning investments with environmental and ethical issues.

The compatibility of investing choices with the investors' values and morals is a prominent and recurring subject in the interviews. According to the qualitative data, most participants prefer green financial products because they align with their beliefs. One respondent in particular emphasized their love of nature and active commitment to the sustainability of their surroundings, exhibiting a deeply embedded feeling of duty for conserving the environment.

4.2 Informed Decision-Making and Market Stability in Green Stocks

Participants' acknowledgement of undertaking research before investing in green stocks is a favorable indicator of educated decision-making. Some investors consider market stability, noting that the green stock market looks to be less volatile than other industries. This conclusion is consistent with studies that emphasizes the importance of stability and predictability as factors for investors in sustainable markets (SIMONA et al., 2021).

An interviewee's discovery of the Sri Kehati Index yields an intriguing tale. The investor was initially drawn to it because of its apparent low volatility, but additional inquiry showed its relationship with green financing. This story is consistent with prior research that highlights the importance of awareness and knowledge in driving investor preferences for sustainable and green financial products (MacAskill et al., 2020). It implies that increasing awareness can impact investment decisions.

4.3 Balancing Returns and Environmental Impact

The interviews indicated a variety of investor perspectives, with some emphasizing the return on investment. These investors like large-cap green stocks with dividends and capital gains. This method represents a balanced viewpoint, demonstrating that while investors are devoted to environmental objectives, they are also looking for financial rewards from their investments. This conclusion is consistent with research indicating that investors in sustainable and green industries are motivated by both financial rewards and environmental impact (Shabbir & Wisdom, 2020).

4.4 Awareness of Supply Chain Risks and Long-Term Commitment

All respondents expressed concern about the supply chain risks connected with green financing projects. However, their willingness to take these risks demonstrates a long-term outlook. The participants revealed a common conviction in the bright possibilities of green finance investments, motivated not only by personal gain but also by a desire to help shape a better environmental future for themselves and future generations. This is consistent with research indicating that a sense of environmental responsibility may be a potent motivation in sustainable investing (Babiak & Sylvia Trendafilova, 2011).

4.5 Government Policies and CSR as Decision Influencers

Recognizing that Corporate Social Responsibility (CSR) tied to green environmental practices aids decision-making highlights the rising importance of ethical concerns in investment decisions. Investors know that investing in firms that have a beneficial environmental effect satisfies social obligation while also possibly providing long-term benefits. This is consistent with studies that emphasizes CSR's role in creating investor preferences for socially responsible investments (Huang & Zhang, 2021).

Furthermore, acknowledging government regulations as a component in green finance development demonstrates a comprehension of the regulatory environment's significance. Investors view governments as powerful institutions that may persuade businesses to emphasize environmental and social responsibilities. This is consistent with the research that emphasizes the relevance of regulatory frameworks in supporting sustainable financial practices (Wang & Wang, 2021).

The combination of interviews showed that supportive green finance policies have facilitated the development of green finance. The green finance policy has played a multifaceted role in promoting increased environmental investment by heavily polluting enterprises. First, by initially clarifying the environmental legal responsibilities of financial institutions, the policy has strengthened the supervision of commercial banks and other institutions, forcing them to be more prudent in the provision of green credits, thus directing the flow of funds to projects that have a positive impact on the environment. Second, state-owned enterprises (SOEs) pay more attention to environmental investments under the dual pressure of policy orientation and social responsibility, and green finance policies have a more significant impact on them. Differences in regions and pollution levels also play a role in the impact, as regions with lower levels of marketization are more likely to be strongly influenced by the policy due to fewer financing channels, while enterprises in regions with low levels of pollution are more willing to take the initiative to increase their environmental investments in order to meet the requirements of green development. This suggests that green finance policies have a significant and multifaceted positive impact in promoting corporate environmental investment and realizing green development.

5. Conclusion and Implications

The examination of green finance development in Indonesia from the perspective of investors gives unique insights into the complex interplay of environmental consciousness, financial concerns, and legislative pressures. The background discussion emphasized the critical need of solving global environmental concerns, which necessitates a move toward sustainable behaviors, as advocated by the Sustainable Development Goals (SDGs). As a growing country experiencing environmental issues, Indonesia has been attempting to reconcile economic growth with green transformation.

The discussion highlighted a complex picture in green finance, with investors demonstrating strong ethical alignment, educated decision-making through research, and a balanced evaluation of financial rewards and environmental effect. The findings emphasized the investors' understanding of supply chain risks as well as their long-term commitment to creating a better environmental future. Notably, the involvement of CSR and government regulations appeared as influential elements influencing investment decisions, demonstrating a comprehensive approach to sustainable financing.

Suggestions

Government

Improve the green financial policy system, especially the green rating system, and gradually realize industry-wide environmental protection information disclosure by strengthening environmental information disclosure.

Establish a perfect information exchange platform that combines ratings with credit collection, prompting various government departments to fully understand the situation of enterprises, and providing a basis for government allocations, penalty decisions and bank credit decisions.
Differentiate green finance policies according to the characteristics of different regions and the nature of enterprises to better meet the needs of all parties.

Guiding enterprises and banks to establish a good relationship, and encouraging banks to pay more attention to the environmental performance of enterprises through measures such as raising the threshold of access to enterprise financing and clarifying the environmental legal responsibilities of banks.
Create a favorable business environment, encourage social capital to participate in green project investment, and promote enterprises to actively change their production methods to facilitate green development.

Financial Institutions/Investors
Increase the innovation of green financial products and services, especially in finding breakthroughs in green bonds, funds and financial products to meet diversified needs.
Develop a sound green financial system, take the initiative to assume social responsibility, and improve the attractiveness of green financial resources by improving the credit approval process, strengthening risk control and other measures.

Enterprises
Take the initiative to assume social responsibility, increase environmental protection investment, and realize the unity of economic and social benefits through technology research and development and environmental protection equipment investment.
Actively exert independent innovation momentum, establish good relations with financial institutions, actively disclose environmental information, and strive for the dividends of green financial policies.
Through the joint cooperation of the government, financial institutions and enterprises, it is expected to realize the effective promotion of green financial policies and promote the sustainable realization of green development.

References

Chen, S. J., & Chen, S. M. (2007). Fuzzy risk analysis based on the ranking of generalized trapezoidal fuzzy numbers. *Applied Intelligence, 26*(1), 1-11.

Chua, D. (2014, April 25). New wave of choreographers. *New Straits Times*, p.7.

Genoveva. (2015). Analyzing of customer satisfaction and customer loyalty based on brand image and perceived service quality. *Journal of US-China Public Administration*, *12* (6), 497-508.

Gomez, M. M., Sierra, J. M. C., Jabaloyes, J., & Zarozo, M. (2010). A multivariate method for analyzing and improving the use of student evaluation of teaching questionnaires: A case study. *Quality Quantitative*. doi: 10.1007/s11135-010-9345-5.

Gunkel, M. (2008). Guidelines for academic writing. http://www.im.ovgu.de/im_media/downloads/examinations/academic_paperwriting_MG.pdf. Accessed 20 Feb 2014.

Ismail, Y., & Zagloel, T. (2014). Industrial symbiosis at supply chain. *International Journal of Business, Economics & Law, 4 (1*), 119-122

Kahraman, C., Cevi, S., Ates, N. Y., & Gulbay, M. (2007). Fuzzy multi-crieria evaluation of industrial robotic systems. *Computer & Industrial Engineering*, 52, 414-433 (2007). doi: 10.1016/j.cie.2007.01.005.

Ramli, N., & Mohamad, D. (2010). On the Jaccard index with degree of optimism in ranking fuzzy numbers. In E. Hullermeier. R. Kruse., & F. Hoffman (Eds.), *Information processing & management of uncertainty in knowledge-based system application* (pp. 383-391). New York: Springer.

Rosen, K.H. (1988). *Discrete mathematics and its applications*. New York: Random House, Inc.

Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: Motives & pressures to adopt green management practices. *Corporate Social Responsibility* , 11–24.

Behera, P., & Sethi, N. (2022). Nexus between environment regulation, FDI, & green technology innovation in OECD countries. *Environmental Science & Pollution Research*. https://doi.org/https://doi.org/10.1007/s11356-022-19458-7

Chen, Y., Xu, Z., Wang, X., & Yang, Y. (2022). How does green credit policy improve corporate social responsibility in China? an analysis based on carbon-intensive listed firms. *Corporate Social Responsibility & Enviromental Management*, *30*(2).

Debrah, C., Chan, A. P. C., & Darko, A. (2022). Green finance gap in green buildings: A scoping review & future research needs. *Building & Environment*, *207*.

Elyn, R., Raja, M., & Matthew, N. K. (2022). The perspectives of stakeholders on the effectiveness of green financing schemes in Malaysia. 4, 450–473. https://doi.org/10.3934/GF.2022022

Huang, H., & Zhang, J. (2021). Research on the environmental effect of green finance policy based on the analysis of pilot zones for green finance reform & innovations. *Sustainability*, 13(7), 3754.

Informatika, U., Febriyanti, F., Informatika, U., & Informatika, U. (2023). Trend of ESG disclosure on green finance perfomance. *10*(1), 79–98.

Jiakui, C., Abbas, J., Najam, H., Liu, J., & Abbas, J. (2023). Green technological innovation, green finance, & financial development & their role in green total factor productivity: Empirical insights from China. *Journal of Cleaner Production*, *382*.

MacAskill, S., Roca, E., B. Liu, R., Stewart, A., & Sahin, O. (2020). Is there a green premium in the Green Bond market? systematic literature review revealing premium determinants. *Journal of Cleaner Production*, 124491. https://doi.org/10.1016/j.jclepro.2020.124491

Maghyereh, A., Awartani, B., & Abdoh, H. (2019). Associations, the co-movement between oil & clean energy stocks: A wavelet-based analysis of horizon. *Journal of Energy*, *169*.

Mzoughi, H., Urom, C., & Khaled, G. (2022). Downside & upside risk spillovers between green finance & energy markets. *Finance Research Letters*, *47*.

Prisandy, R. F., & Widyaningrum, W. (2021). *Green Bond in Indonesia : The challenges and opportunities*. (pp. 259–278).

Rizti, E. A., & Martawardaya, B. (2022). Economics & finance in Indonesia does it pay to be good ? the performance of Indonesian green companies from 2009 - 2018 does it pay to be good ? the performance of Indonesian green companies from 2009 – 2018. *Economics & Finance in Indonesia*, *68*(1).

Sadiq, M., Le-dinh, T., Tran, T. K., Chien, F., Phan, T. T. H. P., & Huy, P. Q. (2023). The role of green finance , eco-innovation , & creativity in the sustainable development goals of ASEAN countries. *Economic Research-Ekonomska Istraživanja*, *36*(2). https://doi.org/10.1080/1331677X.2023.2175010

Sasana, H., & Putri, A. E. (2018). The Increase of energy consumption & Carbon Dioxide (CO 2) emission in Indonesia. 01008, 1–5.

Shabbir, M. S., & Wisdom, O. (2020). The relationship between corporate social responsibility, environmental investments & financial performance: Evidence from manufacturing companies. *Environmental Science & Pollution Research*, 27, 39946-39957.

Simona, F., Victor, P., & Constatinecsu, A. (2021). The role of sustainable finance & investments in the green recovery. *5*, 59–67.

Sparkes, R., & Cowton, C. J. (2004). The maturing of socially responsible investment: A review of the developing link with corporate social responsibility. *Journal of Business Ethics,* 52, 45–57.

Tiawon, H., & Miar. (2023). The role of renewable energy production, energy efficiency & green finance in achieving sustainable economic development: Evidence from Indonesia. *International Journal of Energy Economics and Policy*, *13*(1), 250–260.

Wang, M., Li, X., & Wang, S. (2021). Discovering research trends and opportunities of green finance & energy policy: A data-driven scientometric analysis. *Energy Policy*, *154*, 112295.

Ye, J., & Dela, E. (2023). The effect of green investment & green financing on sustainable business performance of foreign chemical industries operating in Indonesia: The mediating role of corporate social responsibility. *Economic & Business Aspects of Sustainability*, 15(14), 11218.

Yin, X., Chen, D., & Ji, J. (2023). How does environmental regulation influence green technological innovation? moderating effect of green finance. *Journal of Enviromental Management*, *342*. https://doi.org/https://doi.org/10.1016/j.jenvman.2023.118112