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**Road to Sustainability: The Role of Green Bonds in
Promoting Economic Growth Through
Clean Energy Initiatives**



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Road to Sustainability: The Role of Green Bonds in Promoting Economic Growth Through Clean Energy Initiatives

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ABSTRACT

Green bonds has emerged as an innovative mechanism within the financial sector. The Indonesian Government has made the utilization of renewable energy a primary government agenda, mandating the sustainable economic management of natural resources and environment as a fundamental aspect of development within the 2025-2045 National Long-Term Development Plan. However, the issuance of green bonds in Indonesia has seen a drastic decline, with instances becoming increasingly rare. Therefore, it is necessary to conduct a study and develop regulations concerning green bonds to increase the effectiveness of green bonds regulatory framework and practices in Indonesia. With these approaches, Indonesia can strengthen its regulatory framework for green finance and become a world leader in sustainable economic growth.

Keywords: green bonds, green financing, sustainable development, renewable energy

ABSTRAK

Green bonds telah muncul sebagai mekanisme inovatif dalam sektor keuangan. Pemerintah Indonesia telah menjadikan pemanfaatan energi terbarukan sebagai agenda utama, yang mengamanatkan pengelolaan ekonomi sumber daya alam dan lingkungan hidup secara berkelanjutan sebagai aspek fundamental pembangunan dalam Rencana Pembangunan Jangka Panjang Nasional 2025-2045. Namun, penerbitan green bonds di Indonesia telah mengalami penurunan drastis dan semakin jarang terjadi. Oleh karena itu, perlu dilakukan kajian dan pengembangan peraturan mengenai green bonds untuk meningkatkan efektivitas kerangka dan praktik peraturan green bonds di Indonesia. Dengan pendekatan ini, Indonesia dapat memperkuat kerangka peraturan untuk keuangan ramah lingkungan dan menjadi pemimpin dunia dalam pertumbuhan ekonomi berkelanjutan.

Kata kunci: green bonds, pembiayaan hijau, pembangunan berkelanjutan, energi terbarukan



I. Green Finance as a Solution to Global Sustainability Challenges

Technological advancements in daily life have triggered a surge in global energy demand. In Indonesia, approximately 86.91% of primary energy needs are still dependent on fossil energy sources, such as oil, coal and natural gas.¹ Due to the non-renewable nature of these resources, increased energy consumption results in the rapid depletion of fossil energy reserves.² Without effective policies to address these issues, Indonesia's coal reserves are expected to be exhausted by 2026, with the current oil reserves of 3.7 billion barrels projected to run out by 2028.³ As such, decisive and impactful measures are required to realize the transition to renewable energy.

With the growing urgency of energy transition, the Indonesian Government has made the utilization of renewable energy as the primary government agenda, mandating the sustainable economic management of natural resources and environment as a fundamental aspect of development within the 2025-2045 National Long-Term Development Plan/*Rencana Pembangunan Jangka Panjang National (RPJPN)* that has been enacted by the Law Number 59 of 2024 and Electricity Supply Business Plan/*Rencana Usaha Penyediaan Tenaga Listrik (RUPTL)* within the 2021-2030. Principally, the concept of sustainable development has long been a focal topic in global discourse. The term “sustainable development” was formally introduced through the World Commission on Environment and Development (**WCED**) Report in 1987.⁴ In simple terms, sustainable development entails fulfilling the present needs without compromising the capacity of future generations to meet their own needs.⁵ As such, sustainable development emphasizes careful and prudent management of natural resources.⁶

¹Agus Cahyono Adi, “Pemerintah Kejar Target Tingkatkan Bauran EBT,” Kementerian Energi dan Sumber Daya Mineral, 18 January 2024, available at <https://www.esdm.go.id/id/media-center/arsip-berita/pemerintah-kejar-tingkatkan-bauran-ebt>, accessed on 5 October 2024.

²Dheti Puspita and Nursiwi Nugraheni, “Energi Bersih Terjangkau dalam Mewujudkan Tujuan Pembangunan Berkelanjutan (SDGs),” *Jurnal Sosial dan Sains*, Vol. 3, No. 7 (2024), pg. 272.

³Yulia Afriyanti, Hadi Sasana, and Gentur Jalunggono, “Analisis Faktor-Faktor yang Mempengaruhi Konsumsi Energi Terbarukan di Indonesia,” *DINAMIC: Directory Journal of Economic*, Vol 2, No. 3 (2020), pg. 866.

⁴United Nations, The Brundtland Commission, “Report of the World Commission on Environment and Development: Our Common Future,” (New York: UN Subheadquarters, 1987), hlm. 15.

⁵*Ibid.*

⁶Baren Sipayung, et al., “Environmental Law Enforcement In Indonesia In Terms Of The Concept Of Sustainable Development,” *Jurnal Hukum dan HAM Wara Sains*, Vol. 2, No. 3 (2023), pg. 198.





In an effort to realize sustainable development, green financing prioritizes the creation and distribution of financial products and services that foster environmentally friendly investments.⁷ This financing model involves channeling and allocating capital flows to businesses oriented toward environmental sustainability.⁸ Through a series of loans, debt instruments, and investment channels, funding is aimed at promoting environmentally friendly projects, or at least reducing the climate impacts of conventional projects.⁹ Not only does green finance offer cost savings and environmental benefits, but it also helps build a good reputation for the businesses involved.¹⁰ By adding green products to a company's activities, the company can be said to have carried out green financing.¹¹

In Indonesia, one significant green financing instrument is the green bonds, regulated by the Financial Services Authority Regulation (**POJK**) Number 18 of 2023 concerning Issuance and Requirements for Debt Securities and Sustainability-Based Sukuk (**POJK 18/2023**). In principle, green bonds are debt-based securities designed to develop environmentally friendly projects.¹² By investing in green bonds, investors can enjoy stable returns while simultaneously supporting Indonesia's goal of national energy transition.

After the revision version of POJK 60/2017 was issued in 2023, the landscape of green bonds in Indonesia showed significant development. This is evidenced by the various involvement from both the government and private companies in promoting the development of green bonds. For example, in March 2024, PT Bank Rakyat Indonesia (Persero) Tbk (**BRI**) again issued green bonds with a value of Rp2.5 trillion.¹³ This issuance was carried out as part of BRI's commitment to realizing a funding strategy aligned with the Sustainable Principle.

⁷Sarah Wire, "What Is Green Finance?" Lloyds Banking Group, 31 May 2024. Available at <https://www.lloydsbankinggroup.com/insights/green-finance.html>. Accessed on 28 December 2024.

⁸*Ibid.*

⁹*Ibid.*

¹⁰*Ibid.*

¹¹Destara Sati, "Refleksi Keuangan Hijau di Indonesia dan Proyeksi Taksonomi Hijau sebagai Kebijakan Pintar," *Jurnal Hukum Lingkungan Indonesia*, Vol. 8, No. 2 (2022), pg. 339–371.

¹²Aza Bisultanova, "Green Bonds: Historical Aspects of Implementation," *E3S Web of Conferences*, Vol. 5, No. 13 (2023), pg. 1–2.

¹³Anik Sulistyawati, "BRI Terbitkan Green Bond pada 2024 Senilai Rp2,5 Triliun," *Espos.id*, 6 March 2024, available at <https://bisnis.espos.id/bri-terbitkan-green-bond-pada-2024-senilai-rp25-triliun-1877222>, accessed on 6 October 2024.





However, despite initial successes, the current issuance of green bonds in Indonesia has seen a drastic decline in the middle of 2020, with instances becoming increasingly rare. This is evidenced by a 26% decrease in the total subscription volume and a 23% decrease in the number of investors in the ST006 series Green Bonds when compared to the previous issuance.¹⁴ This downturn is influenced by diminishing interest in issuing green bonds, attributable to the complexity of the requirements for green bonds issuance when compared to conventional bonds. In addition, green bonds are perceived as less attractive to investors, largely due to low international credit ratings and liquidity issues.¹⁵ Therefore, it is necessary to conduct a study and develop regulations concerning green bonds to increase the effectiveness of green bonds regulatory framework and practices in Indonesia.

This paper describes the role of green bonds, particularly in supporting Indonesia's transition to renewable energy and sustainable development. The paper brings the Indonesian government's policies, such as the 2025–2045 National Long-Term Development Plan (RPJPN) and the Financial Services Authority Regulation (POJK) 18/2023, which set guidelines for issuing green bonds. The paper also explains what makes green bonds different from regular bonds, focusing on their commitment to funding environmentally friendly projects, the strict regulations they follow, and the obstacles to their adoption. It highlights both the progress and challenges of green bond implementation in Indonesia, including complicated issuance processes, a lack of government support, and concerns about greenwashing. To offer a broader perspective, the paper examines successful green bonds strategies in Germany and China, concluding with practical suggestions to improve Indonesia's green bond policies and support its sustainability goals.

II. Green Bonds as a Green Financing Instrument

The World Bank broadly defines green bonds as financial instruments that aim to raise funds to support projects that focus on sustainability and environmentally

¹⁴Direktorat Jenderal Pengelolaan Pembiayaan dan Risiko Kementerian Keuangan Republik Indonesia, *Studi Mengenai Green Sukuk Ritel di Indonesia* (Indonesia: Direktorat Jenderal Pengelolaan Pembiayaan dan Risiko Kementerian Keuangan Republik Indonesia, 2020), pg. 23.

¹⁵Asian Development Bank, *Detailed Guidance For Issuing Green Bonds In Developing Countries* (Philippines: Asian Development Bank, 2021), hlm. 39.





friendly aspects. This concept is different from conventional bonds, where the funds raised do not have a special attachment to environmentally oriented projects. In Indonesia, green bonds are one of the government's steps to support the Sustainable Development Goals (SDGs). The government has committed to the success of the 17 SDGs goals that must be achieved. As an effort in this regard, as an institution that oversees finances in Indonesia, Otoritas Jasa Keuangan (**OJK**) issued POJK 60/2017 which has been amended with POJK 18/2023. Article 1 point 3 of POJK 18/2023 defines green bonds as one of the debt securities where the proceeds from issuance are used to finance activities related to environmentally-oriented businesses.¹⁶ Green bonds are typically issued by project developing companies to expand investor base, especially those inclined toward environmentally focused investments.¹⁷ Through green bonds, investor funds are channeled as financing capital for projects with substantial environmental benefits. Given the increasingly critical condition of the planet, it is projected that both companies and governments alike will be encouraged to issue green bonds more frequently.

In Indonesia itself, green bonds were first issued by a State-Owned Enterprise (BUMN), namely PT Sarana Multi Infrastruktur (Persero) (**PT SMI**) in 2018.¹⁸ PT SMI issued green bonds with an issuance value of IDR 500 billion, which was then followed by an issuance from the Indonesian banking institution, OCBC NISP amounting to USD 150 million, which was preceded by an investment commitment from the International Finance Corporation (**IFC**).¹⁹ Green bonds were then issued by other conventional banks, such as Bank Mandiri, Bank BNI, and Bank BCA.²⁰ The

¹⁶Indonesian Financial Services Authority Regulation on Issuances and Requirements of Green Bonds, POJK Number 18/2023, from here on addressed as POJK 18/2023. Article 1 point 3.

¹⁷Otoritas Jasa Keuangan, *Laporan Kajian Pengembangan Green Bond di Indonesia* (Indonesia: Otoritas Jasa Keuangan, 2016), pg. 76.

¹⁸Khoirul Anam, "Ini Proyek Garapan PT SMI dari Hasil Penerbitan Green Bond," *CNBCIndonesia.com*, 14 March 2022, available at <https://www.cnbcindonesia.com/news/20220314175744-4-322688/ini-proyek-garapan-pt-smi-dari-hasil-penerbitan-green-bond>, accessed on 4 October 2024.

¹⁹Emanuel Caesario, "OCBC NISP Terbitkan Obligasi Hijau Bank Pertama di Indonesia," *Finansial.bisnis.com*, 1 August 2018, available at <https://finansial.bisnis.com/read/20180801/90/823106/ocbc-nisp-terbitkan-obligasi-hijau-bank-pertama-di-indonesia>, accessed on 4 October 2024.

²⁰Maizal Walfajri, "BNI Terbitkan Green Bond Rp 5 Triliun dengan Kupon 6,35% dan 6,85%," *Kontan.co.id*, 14 June 2021, available at <https://keuangan.kontan.co.id/news/bni-terbitkan-green-bond-rp-5-triliun-dengan-kupon-635-dan-685>, accessed on 4 October 2024.





success of issuing green bonds in Indonesia was also recorded in 2023 by PT Pertamina Geothermal Energy Tbk. In fact, the value of the issuance of green bonds managed to record excess demand of up to 8.25 times or USD 3.3 billion.²¹

Not only do they provide benefits to the issuer, green bonds also offer a number of benefits to investors. By investing in green bonds, companies can enhance their environmental profile, which may lead to improved corporate reputation. This benefit is reflected in the Indonesian capital market, where the issuance of green bonds has grown rapidly in recent years. In 2017, the total value of green bonds issued in Indonesia amounted to US\$49 million.²² By 2022, this figure had surged to US\$7 billion.²³ This increase indicates a positively growing level of corporate awareness regarding climate change and sustainability. Thus, it is hoped that green bonds will become even more appealing to investors, in support of achieving sustainable development.

While green bonds share certain similarities with conventional bonds, there are key distinctions between them. *Firstly*, regarding their proceeds allocation, conventional bonds allow proceeds to be used for a wide range of purposes. Green bonds, however, must be issued exclusively for environmentally oriented projects, such as renewable energy initiatives, energy efficiency improvements, water management, and sustainable transportation projects.²⁴ *Secondly*, green bonds are subject to specific green criteria: before issuance, these bonds must be verified by an independent party to ensure that the funded project meets sustainability standards — being genuinely sustainable.²⁵ The external verifier provides a “second opinion” and is required to review the issued green bonds. Another notable difference is the issuance

²¹Muhammad Heriyanto, “Obligasi Hijau Pertamina Geothermal kelebihan permintaan 8,25 kali,” *Antaranews.com*, 22 May 2023, available at <https://keuangan.kontan.co.id/news/bni-terbitkan-green-bond-rp-5-triliun-dengan-kupon-635-dan-685>, accessed on 4 October 2024.

²²Lucky Firmansyah, “Kontribusi Korporasi dalam Pendanaan Green Bonds,” *Green.katadata.co.id*, 16 April 2024, available at <https://green.katadata.co.id/infografik/6610db2a93f3b/kontribusi-korporasi-dalam-pendanaan-green-bonds>, accessed on tanggal 4 October 2024.

²³*Ibid.*

²⁴Bisultanova, “Green Bonds...,” 3.

²⁵Amrie Firmansyah, “Pengembangan Green Bonds Di Indonesia: Upaya Pemerintah Untuk Mewujudkan Keuangan Berkelanjutan,” *Journal of Law Administration and Social Science*, Vol. 4, No. 1 (2020), pg. 88.





framework. Green bonds issuance must adhere to a specific framework known as the Green Bond Principles (**GBP**), whereas conventional bonds only follow standard capital market regulations.²⁶ Green bonds are also generally favored by investors focused on sustainable investments, who prioritize both environmental impact and financial returns. The projects funded by these green bonds are highly complex, reflecting a significant commitment to global sustainability goals.

III. Legal Framework of Green Bonds in Indonesia

Currently, the Financial Services Authority Regulation (POJK) Number 18/2023 concerning the Issuance and Requirements of Debt Securities and Sukuk Based on Sustainability, which replaces POJK 60/POJK.14/2017 is the only regulation governing green bonds issuance in Indonesia. This POJK serves as a guideline for the issuance of bonds specifically intended for environmentally friendly projects for green bond issuers.

The issuance of this regulation is part of the follow-up to the sustainable finance roadmap, aimed at developing the capital market industry in Indonesia through the advancement of Debt Securities and Sukuk/*Efek Bersifat Utang dan Sukuk* (EBUS). Additionally, POJK 18/2023 represents one of OJK's measures to address key ASEAN issues in mitigating the impacts of climate change, in line with Indonesia's commitment in 2016 through the Paris Agreement. This regulation broadens the scope of discussion on the regulation of securities, issuance mechanisms, and sustainability themes, making POJK 18/2023 not only address green bonds but also cover green sukuk, social bonds, sustainability bonds, waqf-linked sukuk, and sustainability-linked bonds.

To monitor the issuance and circulation of green bonds in Indonesia, OJK mandates periodic reporting from green bond issuers. These reports must include detailed information on the financed projects and the resulting environmental impacts, to ensure alignment with the initial objectives. Furthermore, OJK requires an annual performance assessment of the projects financed by green bonds. This assessment

²⁶Fikri Hadi, Budi Endarto, dan Farina Gandryani, "*Aspek Hukum Green Bond sebagai Pembiayaan Energi Baru Terbarukan di Indonesia*," *Jurnal Rechtsvinding: Media Pembinaan Hukum Nasional*, Vol. 11, No. 3 (2022), pg. 400.





must then be reported to OJK, enabling the regulator to monitor and evaluate the effectiveness of issued green bonds.

IV. Status Quo and Challenges of Implementing Green Bonds in Indonesia

As a relatively new green financing instrument, green bonds initially gained considerable popularity. The issuance of green bonds in Indonesia was initiated by PT **SMI**, with an issuance value of IDR 500 billion.²⁷ PT SMI's main sectors of focus include sustainable transportation and renewable energy, with 63.7% of funds allocated for transportation and 36.3% for renewable energy.²⁸ Notable projects funded in the renewable energy sector include Pembangkit Listrik Tenaga Mikrohidro (**PLTM**) Tunggang Bengkulu, a 10-megawatt capacity hydroelectric plant, as well as other projects energy projects such as PLTM Lubuk Gadang and the Jabodetabek Light Rail Transit (**LRT**).²⁹

Green bonds in Indonesia also experienced positive development, evidenced by domestic banks, including BNI and BRI, launching their own green bonds initiatives.³⁰ Furthermore, this development can be seen from the outstanding value of green bonds, which grew to US\$5.21 billion in 2022. Other significant green bonds issuances include those by Bank OCBC NISP in 2018, worth US\$150 million, and Star Energy Geothermal in 2020, valued at US\$1.1 billion. As of 2023, there have been 29 green bonds issuances recorded in Indonesia.³¹

Although these companies have set a good precedent, over the years, the issuance of green bonds in Indonesia has become rare and is often unheard of. One reason for the decline is the complex issuance requirements that must be met compared to conventional bonds. This can be seen from the release of green bonds

²⁷Dimas Andi, "Sarana Multi Infrastruktur (SMI) Rancang Global Green Bond," *Kontan.co.id*, 10 July 2018, available at <https://investasi.kontan.co.id/news/sarana-multi-infrastruktur-menerbitkan-green-bond-senilai-rp-500-miliar>, accessed on 4 October 2024.

²⁸Anam, "Ini Proyek Garapan..."

²⁹*Ibid.*

³⁰CNBC Indonesia, "Susul BNI, BRI Juga Terbitkan Green Bond Rp5 T," *CNBCIndonesia.com*, 22 June 2022, available at <https://www.cnbcindonesia.com/market/20220622163324-17-349417/susul-bni-bri-juga-terbitkan-green-bond-rp-5-t>, accessed on 4 October 2024.

³¹Firmansyah, "Kontribusi Korporasi dalam..."





which were only initiated by a few issuers, such as BRI and BNI, without any interest from other companies to contribute.³² The lengthy process to ensure alignment with environmental principles also incurs many additional costs, as issuers must engage external parties for verification. Furthermore, this process is not meaningfully supported by government incentives, such as tax incentives. With the many additional efforts required, many prospective issuers ultimately choose to issue bonds in conventional forms rather than market them as green bonds.

At the same time, green bonds are also considered less attractive to investors. One of the reasons for this is greenwashing, which is the practice of creating a false impression regarding how green bonds align with sustainability goals.³³ An example of this practice is the food estate program. It sacrifices thousands of hectares of forests to be converted into commodity lands. Moreover, the land used for this program is mostly peatland, which means there is a high potential for carbon release into the atmosphere.³⁴ Furthermore, this phenomenon is also prevalent in China's "clean coal" industry, where claims of environmental benefits often mask the continued environmental damage caused by coal production.³⁵ Greenwashing practices are partly caused by the lack of universally binding international standards, making it difficult for foreign investors to invest in green bonds in Indonesia. These challenges indicate that green bonds are currently perceived as offering no added value beyond environmental benefits, being insignificantly different from other bonds. This reluctance is evident in the current capital market transactions, where, among the many issued green bonds, only those issued by PT SMI are still popular in the

³²Fika Nurul Ulya, "Pemerintah Diminta Beri Insentif buat Produk Keuangan Hijau," *Kompas.com*, 30 June 2024, available at <https://money.kompas.com/read/2022/06/30/191500426/pemerintah-diminta-beri-insentif-buat-produk-keuangan-hijau-ini-alasannya>, accessed on 28 December 2024.

³³Xianwang Shi, et al., "Green Bonds: Green Investments or Greenwashing?" *International Review of Financial Analysis*, November 2023, available at <https://www.sciencedirect.com/science/article/abs/pii/S1057521923003666>, accessed on 27 December 2024.

³⁴Yoesep Budianto, "Mengenal Praktik 'Greenwashing' di Indonesia," *Kompas.id*, 9 January 2024, available at <https://www.kompas.id/baca/riset/2024/01/09/mengenal-praktik-greenwashing-di-indonesia>, accessed on 24 November 2024.

³⁵Shiyan Chang, et al., "Clean Coal Technologies in China: Current Status and Future Perspectives," *Engineering*, 4 December 2016, available at <https://www.sciencedirect.com/science/article/pii/S2095809917300814>, accessed on 20 November 2024.





domestic market. Nonetheless, the potential for positive growth in green bonds remains possible in the future.

V. Lesson from German and China Green Finance

The stagnant growth of green bonds as sustainable financial instruments in Indonesia warrants government attention to identify and implement solutions addressing existing problems. Therefore, understanding the approaches implemented by other countries can provide valuable insights into addressing Indonesia's challenges with green financing. Two countries that have shown a strong commitment to energy transition through green finance are Germany and China.³⁶

In recent years, Germany has shown a firm commitment to green policies and energy transition, gradually transitioning from fossil and nuclear energy sources to renewable alternatives.³⁷ To support this, Germany has developed a legal framework for the issuance of green bonds called the Green Bond Principles (**GBP**), adhering to the principles set by the International Capital Market Association (**ICMA**).³⁸ These principles set guidelines for transparency, fund usage reporting, and standards for projects to be financed by green bonds, encompassing four main components: use of emission proceeds, project evaluation and selection process, emission proceeds management, and reporting.³⁹ In addition to the GBP, Germany also complies with the EU Green Bond Standard (**EU-GBS**) currently being developed by the European Union, aligning its practices with the European Union's sustainability objectives.⁴⁰

³⁶Liputan6 Team, "Emisi Turun 40 Persen, Jerman dan China Jadi Contoh Sukses Investasi Hijau," *Liputan6.com*, 27 February 2023, available at <https://www.liputan6.com/bisnis/read/5218663/emisi-turun-40-persen-jerman-dan-china-jadi-contoh-sukses-investasi-hijau>, accessed on 12 September 2024.

³⁷Fadhil Rachmanda, Ali Muhyidin, dan Muhammad Imam, "Dampak Embargo Gas Rusia Terhadap Transisi Energi di Jerman Tahun 2022," *Jurnal Noken: Ilmu-Ilmu Sosial*, Vol. 10, No. 1 (2024), pg. 28.

³⁸Federal Ministry of Finance, "Green Bond Framework," (2020), pg. 9.

³⁹International Capital Market Association, "Green Bond Principles - Voluntary Process Guidelines for Issuing Green Bonds," (2021), pg. 4-6.

⁴⁰Urs Lendermann, "Dissecting greenium: Germany's pioneering role in green securities," *ecgi.global*, 12 July 2023, available at <https://www.ecgi.global/publications/blog/dissecting-greenium-germanys-pioneering-role-in-green-securities>, accessed on 8 October 2024.





Since its first green bond issuance on September 2nd, 2020, Germany has successfully issued green bonds totaling €6.5 billion with a 10-year maturity.⁴¹ This exceeds the initial target of €4 billion, demonstrating the country's commitment to sustainability and reduction of greenhouse gas emissions.⁴² To support this, the German Government has committed to maintaining transparency in the use of funds by regularly reporting on the allocation of funds. They have identified around €12.7 billion worth of green projects to be financed through these green bonds.⁴³ With significant fundraising and allocations to green projects, Germany is striving to achieve its net zero greenhouse emissions target by 2050 while leading the global green bonds market.⁴⁴

China has also positioned itself as a global leader in environmental sustainability, one of which is through the advancement of green financing. Green bonds were first issued in December 2015 by the People's Bank of China, introducing green finance bonds in the country's interbank bond market.⁴⁵ As a guideline, the China Securities Regulatory Commission (CSRC) has issued the 2017 Guidelines to Support the Development of Green Bonds, which defines the criteria for issuing entities and the intended use of capital.⁴⁶ Since then, the market for green bonds in China has experienced rapid growth, making it one of the world's largest.

By the end of 2021, China's cumulative green bonds issuance reached nearly US\$200 billion since the market's inception in 2016. In 2021 alone, green bonds issuance reached a record high of US\$68.2 billion, an increase of 186% over the

⁴¹Tanquy Claquin, "Germany issues a €6.5 billion inaugural green bond," *ca-cib.com*, 10 September 2024, available at <https://www.ca-cib.com/en/news/germany-issues-eu65-billion-inaugural-green-bond>, accessed on 8 October 2024.

⁴²Sorta Tobing, "Pasar Obligasi Hijau Makin Menarik Usai Jerman Terbitkan Green Bond," *katadata.co.id*, 9 September 2024, available at <https://katadata.co.id/ekonomi-hijau/energi-baru/5f586b02b9a0a/pasar-obligasi-hijau-makin-menarik-usai-jerman-terbitkan-green-bond>, accessed on 8 October 2024.

⁴³*Ibid.*

⁴⁴Fatihah Annisa, "Upaya Mitigasi Perubahan Iklim Uni Eropa Melalui European Green Deal (EGD): Studi Kasus Jerman 2019-2024," (Skripsi Sarjana Fakultas Ilmu Sosial dan Ilmu Politik Universitas Nasional, Jakarta, 2024), pg. 37.

⁴⁵Hao Zhang, "Regulating Green Bonds in the People's Republic of China: Definitional Divergence and Implications for Policy Making," *ADB Working Paper 1072*, (2020), pg. 6.

⁴⁶Ma Jun, *et al.*, "Chapter 7: Green Bonds," in Alfred Schipke, Markus Rodlauer dan Zhang Longmei, ed., *The Future of China's Bond Market*, (International Monetary Fund, 2019), pg. 162.



previous year.⁴⁷ Green bonds also account for about 1% of China's total bond market, showing great growth potential in the future.⁴⁸ President Xi Jinping has mandated ambitious instructions for all banks in China to engage in green financing, offering favorable bond pricing for companies that adhere to strong reporting and disclosure standards. This aligns with China’s ambitious climate goals: peaking carbon emissions by 2030 and reaching net-zero emissions by 2060.⁴⁹

As an overview, the differences in the regulatory framework of green financing provisions in Germany, China, and Indonesia can be described as follows:

	Germany	China	Indonesia
Supervisory Body	Deutsche Bundesbank and the Federal Financial Supervisory Authority (BaFin), founding members of the Network of Central Banks and Supervisors for the Greening of the Financial System (NGFS) since 2017.	The China Banking and Insurance Regulatory Commission (CBIRC), released Guidelines for green financing in the banking and insurance sector.	The Financial Services Authority (OJK) serves as the supervisory body for green financing. To support this role, OJK has established a Sustainable Financing Task Force in the financial services sector.
Regulatory Framework	The German Green Bond Framework follows GBP and aligns with key aspects	Guidelines on Disclosure of Environmental Information issued by	Financial Services Authority Regulation (POJK) Number 18/2023 concerning

⁴⁷Manshu Deng, Wenhong Xie, Jin Shang, "China Green Bond Market Report 2021," (Climate Bond Initiative, 2022), pg. 2.

⁴⁸*Ibid.*, pg. 3.

⁴⁹DBS, "China's Net-Zero Transition Spurs Financing Growth," *dbi.id*, available at <https://www.dbs.id/id/corporate/research-and-insights/business-insights/china-s-net-zero-transition-spurs-financing-growth>, accessed on 14 September 2024.

	<p>of EU-GBS, encompassing four main components: the use of emission proceeds, project evaluation and selection process, emission proceeds management, and reporting.</p>	<p>CSRC, requiring green bonds issuers to report on how funds are used, the progress of green projects, and environmental benefits, in accordance with relevant rules or agreements.</p>	<p>the Issuance and Requirements of Debt Securities and Sukuk Based on Sustainability regulates the issuance of debt securities and sukuk based on sustainability. It covers green, social, and sustainability-linked bonds and sukuk, including Sukuk Wakaf. The regulation mandates proper use of proceeds, project evaluation, fund management, and regular reporting.</p>
<p>Policy Incentives</p>	<p>German state banks, such as Kreditanstalt für Wiederaufbau (KfW), offer favorable loan terms to help reduce companies' fixed costs, providing low-interest loans to enable small and medium-sized enterprises (SMEs).</p>	<p>Provision of tax incentives for green bonds and opportunity for green assets to qualify for dual-secured bond issuance.</p>	<p>Provision of tax deductions and incentives in the form of tax exemptions for green bonds.</p>



VI. Shaping Effective Regulatory Framework for Utilizing Green Bonds in Clean Energy Transition in Indonesia

In accordance with what has been previously discussed, the primary goal of green bonds is to provide funding for projects that contribute to environmental sustainability, with clean energy development being a fundamental pillar. For Indonesia to maximize the potential of green bonds in driving its renewable energy agenda, the regulatory framework must effectively prioritize clean energy initiatives. Based on the analysis outlined above, several solutions can be taken to improve the effectiveness of green bond regulations and practices in Indonesia. **Firstly**, a clear national standard for green bonds should be created and aligned with international standards, such as ICMA's GBP. This alignment will enhance green bond transparency, improve investor confidence, and enable Indonesia's green bonds to be competitive in the global market. **Secondly**, POJK 18/2023 should consider introducing specific criteria or benchmarks for clean energy to qualify for green bond funding. Article 8 of POJK 18/2023 explicitly lists *Kegiatan Usaha Berwawasan Lingkungan (KUBL)* that can be funded, including renewable energy such as solar, wind, and geothermal. While this covers renewable energy, it does not provide specific benchmarks or criteria that would encourage a direct link to Indonesia's energy transition goals. **Thirdly**, since OJK lacks the mandate to implement fiscal incentives since the authority falls under the Ministry of Finance (MoF), OJK can act as a facilitator to initiate collaborations with MoF and other relevant stakeholders. By working together, OJK and MoF can create a coordinated strategy to incentivize green bond issuance and investment and ensure that fiscal policies directly encourage funding for renewable energy projects while also adhering to sustainability goals. **Lastly**, to enhance the collaboration between public and private sectors. OJK and the Sustainable Finance Task Force should facilitate stronger collaboration with international financial institutions, such as the World Bank and Asian Development Bank, since facilitating such collaborations can enhance Indonesia's access to advanced renewable technologies as well as bridging funding gaps and ensuring project scalability. These efforts will also align Indonesia with global best practices, attract more investors, and support a successful energy transition. In essence, this approach would position Indonesia as a regional





leader in renewable energy development while ensuring the global competitiveness of its green bonds.

Another important component of this framework is increased transparency. Green bonds issuers should be required to provide clear reports on the use of funds, project progress, and environmental impacts. This transparency will enhance the credibility of green bonds, subsequently building trust among investors. In addition, developing adequate market infrastructure to support green bond trading and raising public awareness of the importance of green financing is crucial. Public awareness campaigns can be conducted by involving the government, OJK, and other organizations to educate the public on the positive impacts of green investment towards the environment and sustainable development. Sustainable financial policies must be targeted and inclusive.⁵⁰ With these approaches, Indonesia can strengthen its regulatory framework for green finance and become a world leader in sustainable economic growth.

All in all, Indonesia has a significant opportunity to harness green bonds as a driving force for its renewable energy transition and broader sustainable development objectives. By enacting well-coordinated regulatory reforms, fostering public-private partnerships, aligning with international standards, enhancing transparency, developing market infrastructure, and conducting public awareness campaigns, Indonesia can unlock the full potential of green bonds as a catalyst for clean energy initiatives while building investor confidence and public support for green financing. Through these strategic measures, Indonesia can establish itself as a global leader in renewable energy innovation, effectively addressing environmental challenges while also advancing a sustainable and inclusive economic future.

⁵⁰Marsya Mutmainah Handayani, *et al.*, *Kertas Kebijakan Membangun Kembali Kerangka Keuangan Berkelanjutan Indonesia* (Jakarta: Indonesian Center for Environmental Law, 2024), pg. 24. a





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