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Synchronization of Green Bond Regulations as Financing for Battery Electric Vehicle Conversion in Indonesia

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Abstract

Transportation is still the largest emission-contributing sector in Indonesia. However, the Government has set an aggressive electrification target in the transportation sector if it needs to be balanced with a financing scheme for energy conversion towards battery electric vehicles (BEV). For this reason, BEV conversion industry players should utilize green bond financing schemes. The main issue lies in the need for more alignment between EV conversion industry regulations and financing models for the sector. However, the Government needs to harmonize rules and coordination among sectoral institutions such as the OJK, Ministry of Finance, Ministry of Industry, and Ministry of Transportation. Especially concerning Regulation Number 39 of 2023 regarding the Conversion of Fuel-Powered Motorcycles into Battery-Based Electric Motorcycles, and Minister of Transportation Regulation Number 15 of 2022 regarding Motor Vehicle Conversion to formulate green bonds as an alternative financing option for BEV programs. The method used in this writing is normative legal research of the exploratory type with a statutory and conceptual approach. The result shows that through the synchronization model of green bond financing regulations with the battery electric vehicle conversion regulation and coordination between sectoral institutions, it is expected to accelerate the commitment to realize net zero emission and as an effort to mitigate the energy crisis and reduce fuel energy subsidies in Indonesia.

1. Introduction

The 2030 Agenda for Sustainable Development emphasizes five development elements: people, planet, prosperity, peace, and partnership.[1] Furthermore, Indonesia's efforts to realize the SDGs include a program to accelerate the conversion of oil-fueled motor vehicles to electric vehicles by 13 million in 2030.[2] The policy, outlined in Presidential Regulation 55 of 2019, concerns accelerating the battery electric vehicle / EV program in Indonesia, which is about the "National Energy General Plan (RUEN)." The RUEN is a strategic document that sets the direction of national energy policy for a specific period, in this case, until 2050. Presidential Regulation 55/2019's urgency is a strategic step to ensure that Indonesia's energy policy aligns with future needs and existing global challenges. In addition to efforts to accelerate the EV conversion program, the policy is also an effort to mitigate the energy crisis and reduce fuel energy subsidies, which

1 Leonard F Hutabarat, "Pertumbuhan Hijau Berkelanjutan Bagi Indonesia Di Forum Internasional," Badan Strategi Kebijakan Luar Negeri: Policy Brief 7, no. 3 (2022): 1–7.

2 Luthfi Anshori, "Indonesia Targetkan 13 Juta Motor Listrik Dan 2 Juta Mobil Listrik Mengaspal 2030," DetikOto, accessed March 25, 2024, https://oto.detik.com/motor/d-6241067/indonesia-targetkan-13-juta-motor-listrik-dan-2-juta-mobil-listrik-mengaspal-2030.

reach Rp—502 Trillion per year. [3]

The EV program is also Indonesia's commitment to oversee the reduction of global carbon dioxide emissions, formulated in one of the points of agreement at the G-20 Summit held in Bali in 2022. The 12th of the 52 agreement points at the G-20 Summit mentions a deal related to the energy transition and climate crisis. The policy program is a commitment to achieve *net zero emissions,* which is part of the 2030 Agenda.[4]

However, some of these policies have yet to be supported by a funding model oriented towards *sustainable finance*. The spirit of *sustainable finance* development has been recognized since it was stated in point 18th of the G20 Bali Leaders Declaration 2022, where it was agreed that each G20 member country must develop a *sustainable finance roadmap*.[5] Indonesia has formulated the Sustainable Finance Roadmap 2021-2025, followed by the issuance of POJK Number 18 of 2023, which regulates the procedures for issuing thematic bonds: green, social, sustainable, and sustainability-linked.

The regulation of *green bonds* in Indonesia is essential to ensure that development aligns with environmental conservation efforts.[6] These days, governments, corporations, and institutional banks are issuing green bonds, a burgeoning class of debt securities, to raise money for environmental and climate change adaptation projects.[7] This is increasingly evident from the study data in Southeast Asia, where Indonesia issued the highest green bonds, reaching 58% among five other countries in 2019. However, Indonesia's issuance is still 99% dominated by the issuance of government green bonds. This differs from Malaysia and Singapore, which are dominated by the private sector.[8] Based on these data, Indonesia should encourage the private sector to be more active in issuing green bonds in the future.

Related to the topic under discussion, the main problem is an unsynchronization between the regulation of the EV conversion industry and the financing model for the industry. Although Presidential Regulation No. 55 of 2019 does mention the accelerated development of the domestic EV conversion industry. As stipulated in Article 17, the Government provides incentives to industrial companies engaged in this field. However, Article 19 does not mention specific incentives for industrial development or EV conversion business activities. In practice, the State emphasizes subsidies to motor vehicle owners who want to convert to EVs, as reflected in the Minister of Energy and Mineral Resources Regulation No. 3 of 2023. Overall, the Minister of Energy and Mineral Resources Regulation No. 3 of 2023 is essential for green bonds because it provides a framework that supports the development and management of renewable energy projects, increasing the credibility and effectiveness of green bonds in financing environmentally friendly projects.

From this problem, industry players in the battery-electric vehicle conversion field must also find an easy financing model. One financing option for business actors in the battery-electric vehicle sector is to utilize the green bond scheme. It should be conveyed that regulations related to electric vehicles have yet to be formulated in legislation. The current draft law related to renewable energy, one of the national legislative programs, is still under discussion in the legislative body.

Furthermore, regarding funding instruments that can be used for the development of the battery electric vehicle sector, alternative financing, as regulated in POJK 18/2023, can be utilized. The basis for the issuance of POJK 18/2023 is the application of sustainable finance principles as a manifestation of Indonesia's mission to be beautiful and sustainable. This is a tangible form of Indonesia's commitment to the international community by providing funding sources to mitigate and adapt to climate change. Thus, the capital market, as one of the financial institution systems, is expected to be able to apply sustainable finance principles. Suppose we look at regulations related to green bonds, motivated by the concept of sustainable development, where economic activities must also be understood to prevent more significant negative impacts of climate change. POJK 18/2023 supports good

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3 KrisiandiDian Erika, "Jokowi: Subsidi BBM Kita Sudah Rp 502 Triliun, Negara Mana Pun Tak Kuat," KompasCom, accessed March 25, 2024, https://nasional.kompas.com/read/2022/08/01/20575151/jokowi-subsidi-bbm-kita-sudah-rp-502-triliun-negara-mana-pun-tak-kuat.

4 lsma, "Indonesia Serius Mewujudkan Komitmen Net Zero Emission," infopublik.id, accessed March 25, 2024, https://www.infopublik.id/kategori/g20/638383/index.html.

5 Danu Damarjati, "Ini Isi Lengkap Deklarasi KTT G20 Bali, Ada Poin Alot Soal Ukraina," detikNews, accessed March 25, 2024, https://news.detik.com/berita/d-6411054/ini-isi-lengkap-deklarasi-ktt-g20-bali-ada-poin-alot-soal-ukraina.

6 Luthfia Ayu Karina, "Peluang Dan Tantangan Perkembangan Green Sukuk Di Indonesia," Conference on Islamic Management, Accounting, and Economics (CIMAE) Proceeding 2 (2019): 259–65.

7 Dina Azhgaliyeva, Anant Kapoor, and Yang Liu, "Green Bonds For Financing Renewable Energy And Energy Efficiency In Southeast Asia : Asian Development Bank Institute," no. 1073 (2020).

8 Azhgaliyeva, Kapoor, and Liu.

governance in the management of green bonds by providing guidelines that help financial institutions manage information technology effectively and safely. This contributes to the Green Bond program's transparency, accountability, and success.

Thus, the value of novelty in this research through the synchronization model of green bond financing regulations with the battery electric vehicle conversion program and coordination between sectoral institutions is expected to accelerate the commitment to realize net zero emission and as an effort to mitigate the energy crisis and reduce fuel energy subsidies in Indonesia.[9][10]

When tracing several studies that discuss green bonds, there are differences with this study, including the first conducted by Xuanmei Chenf et. All found that empirical results show a positive relationship between green bond issuance and resource efficiency. The second study was conducted by Jijian Zhang et al. l, which illustrates that green bonds, a new green financial instrument, encourage companies to achieve high-quality development through green technology innovation. Imran Yousaf et al. found that spillovers and hedging effectiveness show that crude oil-based portfolios and green bonds provide great diversification benefits for investors and portfolio managers.

From the perspective of Indonesia, the Indonesian Government is committed to fulfilling the priority targets discussed during the G-20 Presidency, which includes sustainable energy transition. Battery electric vehicle conversion programs enhance one form of energy transition.[11] Therefore, it is reasonable to consider green bonds as one solution to achieving the priorities discussed during the G-20 Presidency in Indonesia.[12]

From this description, there needs to be more consistency between regulating green bonds as green finance and regulating battery electric vehicle conversion. In some of the rules mentioned above, consistency can lead to clarity in the market regarding criteria and reporting, which can reduce investor interest in green bonds or electric vehicle conversions. This condition cannot support the Battery Electric Vehicle Conversion program's Acceleration.

In contrast, Indonesia Government Regulation Number 15 of 2022 concerning "Conversion of Motor Vehicles" focuses on converting conventional vehicles into electric vehicles. Although not directly related to green bonds, this regulation plays a vital role in green finance and developing the bond market. Overall, Regulation Number 15 of 2022 is essential in supporting electric vehicle and infrastructure projects that can be financed through green bonds. The regulation strengthens the foundations of green bonds by providing a framework that supports the transition to greener transportation solutions.

The Regulation of the Minister of Transportation Number 39 of 2023 concerning " Conversion Of Combustion Motor Driven Motorcycles Into Battery-Based Electric Motorcycles" focuses on integrating sustainability principles into the public transportation system in Indonesia. Although this regulation is not directly related to green bonds, several important aspects are relevant to green finance and issuance. With these steps, the Regulation of the Minister of Transportation Number 39 of 2023 can synergistically support the growth of the green bond industry and sustainable transportation projects.

Therefore, legal questions arise that are very important to study, namely: Whether regulation of green bonds as a financing instrument can encourage Acceleration in realizing net zero emission, which is part of the 2030 Agenda, and how the synchronization regulation model of green bond financing legislation with the battery electric vehicle conversion program.

9 Republik Rakyat, Dewan Perwakilan Indonesia, "Progres RUU Tentang Energi Baru Dan Terbarukan," Dewan Perwakilan Rakyat Republik Indonesia, accessed August 30, 2024, https://www.dpr.go.id/uu/detail/id/406.

10 Hikmatul Maulidina, "Dewan Perwakilan Rakyat," Indonesia, no. 2 (2019): 1–13.

11 Yuli Nurhanisah, "Akses Peliputan Di KTT G20," Indonesia Baik.id, accessed August 30, 2024, https://indonesiabaik.id/infografis/akses-peliputan-di-ktt-g20.

12 Budi Endarto, Fikri Hadi, and Nur Hidayatul Fithri, "Politik Hukum Green Bond Di Indonesia," Bina Hukum Lingkungan 7, no. 1 (2022): 1–21, https://doi.org/10.24970/bhl.v7i1.303.

2. Method

The method used in this writing is normative legal research of the exploratory type[13][14][15][16][17] is used to obtain explanations and data about unknown things.[18] Exploratory type studies are conducted to find new knowledge in a particular field. Exploratory legal studies are intended to explore a new phenomenon that may have yet to be or is rarely used as an object of study. This is very relevant to studies related to green bonds, which are a new study in financial law, especially as one of the capital market instruments in Indonesia. The novelty of this study will be even more apparent when it is associated with the financing model of the battery electric vehicle program.

The approach used in this research is a statute approach, which examines the norms in the legislation that apply in Indonesia, especially those relating to green bonds and energy conversion in the form of battery electric vehicle development. The review will begin with the regulations associated with Indonesia's commitment to realize the Sustainable Development Goals as stipulated in Presidential Regulation No. 59 of 2017 on the Implementation of Achieving Sustainable Development Goals. Furthermore, it will discuss topics related to Presidential Regulation Number 55 of 2019 concerning the acceleration of the battery electric vehicle / EV and Minister of Transportation Regulation Number 65 of 2020 on converting motorcycles with fuel motor drivers into battery-based electric motorcycles[19] and Minister of Transportation Regulation Number 15 of 2022 on the Conversion of Motor Vehicles.

From some of these arrangements, alternative financing relevant to the field of study, namely green bonds, will be studied. For this reason, it is necessary to examine the Financial Services Authority Regulation Number 18 of 2023 concerning the Issuance and Requirements of Debt Securities and Sustainability-Based Sukuk. Some of these regulations concentrate on synchronizing efforts between battery electric vehicle conversion programs with alternative financing mechanisms using green bond instruments.

In addition, it also uses a conceptual approach related to doctrines and theories relevant to this study. A conceptual approach is needed to build legal argumentation from concepts or doctrines about green bonds as green finance and their relevance to arrangements related to battery electric vehicle development programs to realize net zero emission.

3. Findings and Discussion

3.1 Policy for Regulating Battery-Based Electric Motor Vehicle Program

SDGs is a long-term world program initiated by the United Nations to optimize all the potential and resources owned by each country. The SDGs have 17 (seventeen) goals that must be achieved. The SDGs are targeted to be completed by 2030 with quantitatively measurable and quality-oriented challenges.[20] As a member of the United Nations, Indonesia is also one of the countries participating in the SDGs program. The commitment of the Government of Indonesia is implemented by the enactment of Presidential Regulation No. 59 of 2017 on the Implementation of Achieving Sustainable Development Goals as a first step as well as a juridical basis in the implementation of SDGs in Indonesia.[21]

Among the SDGs, the 7th goal is affordable and clean energy, and the 13th goal is climate action, namely, to act fast in mitigating climate change and its impacts. These are some of the priorities, in addition to the other goals.

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13 Galang Taufani Suteki and Galang Taufani, "Metodologi Penelitian Hukum (Filsafat, Teori Dan Praktik)," Depok: Rajawali Pers, 2018.

14 Anthon F Susanto, "Penelitian Hukum: Transformatif-Partisipatoris," 2015.

15 Jhonny Ibrahim, Teori Dan Metodologi Penelitian Hukum Normatif (Malang: Bayumedia Publishing, 2012).

16 Peter Mahmud Marzuki, Penelitian Hukum Edisi Revisi Cet-11 (Jakarta: Kencana Prenada Media Group, 2019).

17 Irwansyah, Penelitian Hukum; Pilihan Metode Dan Praktik Penulisan Arikel (Yogyakarta: Mirra Buana Media, 2020).

18 Irwansyah.

19 Peraturan Menteri Perhubungan No. 65, "Peraturan Menteri Perhubungan Republik Indonesia Nomor PM 65 Tahun 2020 Tentang Konversi Sepeda Motor Dengan Penggerak Motor Bakar Menjadi Sepeda Motor Listrik Berbasis Baterai," Peraturan Menteri Kesehatan Republik Indonesia Nomor 4 Tahun 2018 151, no. 2 (2020): 10–17.

20 Rofiqoh Ferawati, "Sustainable Development Goals Di Indonesia: Pengukuran Dan Agenda Mewujudkannya Dalam Perspektif Ekonomi Islam," Kontekstualita 33, no. 02 (2018): 143–67, https://doi.org/10.30631/kontekstualita.v35i02.512.

21 Fahmi Irhamsyah, "Sustainable Development Goals (SDGs) Dan Dampaknya Bagi Ketahanan Nasional Dampaknya Bagi Ketahanan Nasional," Jurnal Kajian LEMHANNAS RI 38 (2019): 45–54.

The Indonesian Government's step related to both SDGs' goals is to shift energy towards new and renewable energy in various fields. One of the concrete steps taken by the Government is the conversion of fossil fuel (petroleum) motorized vehicles to battery-based electric cars. The acceleration step was carried out by issuing Presidential Regulation Number 55 of 2019 concerning the Acceleration of the Battery Electric Vehicle Program for Road Transportation. As a derivative of the Presidential Regulation, the Regulation of the Minister of Transportation Number 39 of 2023 concerning " Conversion Of Combustion Motor Driven Motorcycles Into Battery-Based Electric Motorcycles and Minister of Transportation Regulation Number 15 of 2022 on the Conversion of Motor Vehicles other than Motorcycles with Fuel Motor Drivers into Battery-Based Electric Motor Vehicles were issued.

The normative provisions related to EVs are determined in several regulations, namely Minister of Transportation Regulation Number 55 of 2019 concerning the Acceleration Program for Battery Electric Vehicles for Road Transportation Article 3:

1. Acceleration of domestic Battery-Based Electric Vehicle industry development;
2. Incentive provision;
3. Provision of electricity charging infrastructure and regulation of electricity tariffs for Battery-Based Electric Vehicles;
4. Compliance with technical requirements for Battery-Based Electric Vehicles and
5. Environmental protection.[22]

There is Minister of Transportation Regulation Number 55 of 2019 regarding the Acceleration of Battery Electric Vehicle-Based Motor Vehicle Program for Road Transportation Article 7:

1. Companies, universities, and institutions can research, develop, and innovate in KBL Battery-Based Industry technology.
2. The central government, Local Governments, and industrial companies can collaborate to conduct research, development, and innovation in Battery-Based Electric Vehicle technology.
3. Research, development, and innovation in the battery-based KBL technology industry, as referred to in paragraph (2), are carried out to support the following:
    a. Development of the main components of Battery-Based KBL;
    b. Efficient development of SPKLU;
    c. The translation in Formal Inggris is Battery-based KBL industry development by current technological advancements;
    d. Battery-based KBL industry with high local content and
    e. Develop a battery-based KBL that meets technical standards and is environmentally friendly.[23]

The Minister of Transportation Regulation Number 39 of 2023 concerning Conversion Of Combustion Motor Driven Motorcycles Into Battery-Based Electric Motorcycles in Article 2, "Every Motorcycle with Combustion Motor Drive that has been registered and identified can be converted into a Battery-Based Electric Motorcycle."[24]

Government Regulation of the Republic of Indonesia Number 15 of 2022 regarding the Conversion of Motor Vehicles Other than Motorcycles with Combustion Engines into Battery-Based Electric Motor Vehicles in Article 3:

1. As referred to in Article 2, paragraph (1), the conversion cannot change the electrical system standards of motor vehicles that will undergo conversion.
2. The provision in paragraph (1) is exempted from the driving motor's electrical system and supporting equipment.[25]

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22 Government of The Republic of Indonesia, "Peraturan Presiden Republik Indonesia No. 55 Tahun 2019 Tentang Percepatan Program Kendaraan Bermotor Listrik Berbasis Baterai (Battery Electric Vehicle) Untuk Transportasi Jalan.," Republik Indonesia, no. 55 (2019): 1–22.

23 Government of The Republic of Indonesia.

24 Kementerian Perhubungan, "Peraturan Menteri Perhubungan Republik Indonesia Nomor Pm 39 Tahun 2023 Tentang Konversi Sepeda Motor Dengan Penggerak Motor Bakar Menjadi Sepeda Motor Listrik Berbasis Baterai," Https://Peraturan.Bpk.Go.Id/Details/169075/Permenhub-No-39-Tahun-2023, 2023, 18.

25 Kementerian Perhubungan, "Peraturan Menteri Perhubungan Nomor 15 Tahun 2022 Tentang Konversi Kendaraan Bermotor Selain Sepeda Motor Dengan Penggerak Motor Bakar Menjadi Kendaraan Bermotor Listrik Berbasis Baterai,

The Government realizes that converting to battery-based electric vehicles is costly. For this reason, specifically for the conversion of motorcycles, the Government has determined that the highest conversion fee is worth Rp.17,000,000 (seventeen million rupiah) for motorcycles with an engine capacity of 110 cc (one hundred ten cubic centimeters) up to 150 ccs (one hundred fifty cubic centimeters) as stated in Article 3 paragraph (3) of the Minister of Energy and Mineral Resources Regulation Number 3 of 2023 concerning General Guidelines for Government Assistance in the Conversion Program of Motorcycles with Fuel Motor Drivers to Battery-Based Electric Motorcycles. The conversion fee, paragraph (4) states that the Government provides a discount of Rp7,000,000 (seven million rupiah) for each converted motorcycle. As a commitment, the Government has budgeted 1.4 trillion rupiahs to subsidize the conversion program to battery-based electric motorcycles.[26]

From some of those regulations, the ones related to the conversion program to battery-based electric motorcycles are still oriented towards providing incentives as stipulated in Minister of Transportation Regulation Number 55 of 2019, as well as providing subsidies as regulated by Minister of Energy and Mineral Resources Regulation Number 3 of 2023. For the sustainability of the conversion program, it should be considered that in the future, incentives will not only be given to those who convert electric motorcycles with the help of subsidies from the Government. However, financing innovations are needed to make the conversion program a success.

3.2 Green Bond Regulation in Indonesia

Generally, regulations related to sustainable finance are regulated in POJK Number 51/POJK.03/2017 concerning implementing Sustainable Finance for Financial Services Institutions, Issuers, and Public Companies (POJK 51/POJK.03/2017).[27] Considering the background of the preparation of POJK 51/POJK.03/2017, it is an effort to realize an economy that grows stably, inclusively, and sustainably with the ultimate goal of providing economic and social welfare to all people, as well as protecting and managing the environment wisely in Indonesia. Thus, orientation in economic development must prioritize the harmony of economic, social, and environmental aspects. It is realized that if the implementation of development only targets economic growth, it is feared that it will cause social inequality and a decrease in environmental quality. The efforts to realize this harmony require support from the financial system that can prevent the practice of funding or investing in business activities that use excessive resources that have the potential to increase social inequality and cause environmental damage.

In addition to POJK 51/POJK.03/2017, there is also a more specific regulation related to debt securities, namely Financial Services Authority Regulation Number 18 of 2023 concerning the Issuance and Requirements of Debt Securities and Sustainability-Based Sukuk (POJK 18/2023), which replaces Financial Services Authority Regulation Number 60 of 2017 concerning the Issuance and Requirements of Environmentally Friendly Debt Securities (Green Bond). The background to the issuance of POJK 18/2023 is that to realize sustainable development that can maintain economic stability, a national monetary system prioritizes harmony between the sustainability of the financial, environmental, and social aspects. POJK 18/2023 regulates the procedures for issuing green, social, sustainable, and sustainability-linked bonds.[28]

The basis for issuing POJK 18/2023 is that applying sustainable finance principles to manifest Indonesia's beautiful and sustainable mission is a tangible form of Indonesia's commitment to the international community by providing funding sources to mitigate and adapt to climate change. Thus, as one of the financial institution systems, the capital market is expected to apply sustainable finance principles. Let's look at the regulation related to green bonds. It is motivated by the concept of sustainable development, where economic activities must also be understood to prevent more significant negative impacts of climate change.[29]

This is more visible since Indonesia ratified the Paris Agreement through Law Number 16 of 2016 concerning the Ratification of the Paris Agreement to the United Nations Framework Convention On Climate

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Peraturan Menteri Perhubungan Republik Indonesia Nomor 15 Tahun 202," Menteri Perhubungan Republik Indonesia, 2022.

26 Direktorat Jenderal Ketenagalistrikan, "Pemerintah Dorong Badan Usaha Untuk Konversi Motor Listrik," Kementerian Energi dan Sumber Daya Mineral, accessed March 25, 2024, https://www.esdm.go.id/id/berita-unit/direktorat-jenderal-ketenagalistrikan/pemerintah-dorong-badan-usaha-untuk-konversi-motor-listrik.

27 Peraturan Otoritas Jasa Keuangan, "POJK No. 51 /POJK.03/2017 Tentang Penerapan Keuangan Berkelanjutan Bagi Lembaga Jasa Keuangan, Emiten, Dan Perusahaan Publik," 2017, 1–15.

28 OJK, "Otoritas Jasa Keuangan Republik Indonesia POJK Nomor 18 2023," Https://Www.Ojk.Go.Id, 2023.

29 Sodikin, "Perumusan Hak Atas Lingkungan Hidup Yang Baik Dan Sehat Dalam Undang-Undang Dasar Negara Republik Indonesia Tahun 1945 Serta Upaya Perlindungan Dan Pemenuhannya," Supremasi Jurnal Hukum 3, no. 2 (2021): 106–25.

Change. The agreement related to the efforts in mitigating climate change is followed by 197 countries that have agreed through the Paris Agreement in 2015 to mitigate the climate change that occurs on earth; the participating countries of the agreement agreed to hold the increase of global warming below 2 ° C and continue the efforts in preventing the temperature rise to 1.5 ° C.[30]

The phenomenon of climate change, according to Daniel Murdiyarso, is a change of climate elements in the long term (between 50 (fifty) and 100 (one hundred) years), which is influenced by human activities that produce greenhouse gas (GHG) emissions. With the existence of climate change, the increasing earth's temperature is a severe threat to humanity and the planet, at the same time as the potential cause to drown coastal areas in various parts of the world. Therefore, there is a need for more effective cooperation between countries to avoid this potential threat.[31]

The impact of climate change has become a global concern, making the issue of climate change increasingly a problem for countries in the world. Several UN member states developed the United Nations Framework Convention on Climate Change (UNFCCC) based on this awareness. They negotiated to find the best way and compromise in sharing roles and obligations in making efforts to control climate change and deal with its impacts. Indonesia, as an archipelagic country that has a variety of natural resources and high diversity, has excellent potential to be affected by the adverse effects of climate change, and at the same time, has a great responsibility to take part in mitigating and adapting to the negative impacts of climate change.

Recognizing Indonesia's position both for the sake of climate change mitigation and adaptation as well as in the framework of fulfilling the constitutional mandate, Indonesia is actively involved in anticipating the impacts of climate change, which began since the signing of the UNFCCC in a high-level conference of the Earth Summit on Environment and Development (UNCED) in Rio de Janeiro Brazil in 1992. The Government of Indonesia ratified the results of the Climate Change Convention based on Law Number 6 of 1994 concerning the United Nations Conference on Environment and Development or the United Nations Framework Convention on Climate Change. The UN Framework Convention on Climate Change, as stated in Article 2, is aimed to stabilize the concentration of greenhouse gases in the atmosphere at a certain level from human activities that endanger the climate system. To achieve this goal, the basic principles of the convention emphasize the equality principle and the precautionary principle.

One financial instrument to support mitigating the more significant negative impacts of climate change is green bonds. The proceeds of green bonds, as a thematic bond or an amount equal to the proceeds, will only be used to finance or refinance projects that have a definite positive impact on the environment and are in line with the GBP Core Component.[32] Additionally, it established the eligible green projects, which include the following "but are not limited to": clean transportation, sustainable water and wastewater management, climate change adaptation, circular economy and eco-efficient projects, renewable energy, pollution prevention and control, clean transportation, environmentally sustainable management of living natural resources and land use, and green building.[33] Thus, green bonds are one of the financing alternatives, including financing projects in the KUBL category, such as energy efficiency projects, sustainable pollution prevention, control, clean water empowerment, and waste preservation.[34]

Let's look at the growth of global green bonds. It is pretty fast and famous, as the results of a study from Caroline Harrison et al. state that the marketplace for green bonds has rapidly expanded since it was first introduced a decade ago. Financial forecasts suggest that its popularity will continue to increase as more institutions hear demands from client investors who desire investments with positive environmental impacts. Based on the thoughts conveyed by Caroline Harrison, it can be used as a reference for developing green bonds in Indonesia through two approaches. First, OJK, as the capital market authority, socializes the benefits that green bond issuers can obtain, such as incentives and ease of the issuance process. Next, education is needed for potential investors that the investment made is not only profit-oriented but is also expected to create positive environmental impacts.

30 Faris Faza Ghaniyyu and Nurlina Husnita, "Upaya Pengendalian Perubahan Iklim Melalui Pembatasan Kendaraan Berbahan Bakar Minyak Di Indonesia Berdasarkan Paris Agreement," Morality: Jurnal Ilmu Hukum 7, no. 1 (2021): 110, https://doi.org/10.52947/morality.v7i1.196.

31 Adi Budiarso, Kebijakan Pembiayaan Perubahan Iklim: Suatu Pengantar, 2019, vol. 1, 2019.

32 Budiarso.

33 Budiarso.

34 Abdul Syukur At-Tibasiy, Fadly Mane, and Indah Yuliana, "Mekanisme Green Bond Di Indonesia," Jurnal Al-Amwal: Jurnal Ekonomi Dan Perbankan Syariah 11, no. 2 (2019): 259–72, https://doi.org/10.24235/amwal.v11i2.4698.

However, in the development of green bonds, what must be considered is the regulatory support for its issuance, as stated by Echo Kaixi Wang the experience in the US, which states, "The US green bond market needs necessary regulatory assistance in the form of a tiered green bond system, mandatory quarterly disclosures from bond issuers to investors, and severe penalties for issuers misusing bond proceeds to grow further."[35] The green bond market has developed into a new capital markets infrastructure that includes reporting, usage of proceeds obligations, external validation, and green norms. Due to this new infrastructure, the way players engage in the capital markets is changing, and ESG performance demands are rising. Additionally, based on the experience of several countries, especially the US, regulations are needed that require the implementation of disclosure principles as a fundamental principle in the capital market, which aims to provide legal protection for investors. From a practical perspective, implementing green bonds in Indonesia can refer to securities issuance standards, which refer to the voluntary guidelines for issuing green bonds published by the International Capital Market (ICMA). ICMA compiles four core components of green bond principles: use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. This is an effort to realize the issuance of capital market instruments oriented towards economic, sustainable, and governance aspects.

However, this is not easy because there are several challenges in issuing green bonds, namely standardization and transparency. There is no uniform international standard regarding environmental impact assessment and reporting. This makes it difficult for investors to compare and evaluate the effectiveness of funded projects. In addition, there is a risk if green bond issuers claim that their projects are environmentally friendly without clear evidence, which could lead to greenwashing. As is standard practice, this can reduce investor confidence and hinder market growth. Measuring the environmental impact of funded projects can be very complex, and it is often difficult to determine long-term outcomes.

Similarly, for green bond issuers, additional costs for reporting and verifying environmental impact may reduce their incentive to issue green bonds. Finally, the green bond market is still relatively small compared to the conventional bond market. This market limitation can hinder liquidity and reduce investor interest.[36]

The market for green bonds has developed into a brand-new capital market instrument that includes external validation, fund commitments, green rules, and reporting. Due to this new infrastructure, the way players engage in the financial markets changes, and ESG performance standards are rising. Therefore, it deserves a place to support sustainable development-oriented business activities, including battery-electric vehicle conversion programs.

3.3 Synchronizing *Green Bond* Arrangements with the Policy to Accelerate *Battery Electric Vehicle* Conversion

Long-term projections indicate that the transportation industry will emit the most energy. Despite the government's ambitious electrification plans, the industry increasingly relies on fossil fuels. The Indonesia Energy Transition Outlook 2022 provides information on energy transition planning, particularly about the transportation industry. "Over time, it is anticipated that the energy sector with the highest emissions will be the transportation sector. This is the outcome of the industry's expansion while maintaining a high reliance on fossil fuels, even in the face of the Government's ambitious electrification goals. By 2050, emissions from the transportation sector will increase by 2.7% per year, nearly double current levels in the PES. According to the Planned Energy Scenario (PES), the industrial sector's emissions will increase quickly at a rate of 3.2% annually despite energy efficiency initiatives aimed at reducing the sector's energy intensity by 1% annually".[37]

However, this needs to be balanced with a financing scheme oriented towards the ultimate goal, in this case, supporting mitigating climate change's more significant negative impact. Even more concrete is the need for a design for financing that accommodates the energy transition program, which is described as follows: "One major obstacle to speeding up Indonesia's energy shift is getting funding for renewable energy projects. Both local financing capacity and financing sources must increase. It is important to create new finance models and bolster national financing institutions' ability to support their application. Improved communication between financiers

35 Stephen Kim Park, "Green Bonds and beyond: Debt Financing as a Sustainability Driver," The Cambridge Handbook of Corporate Law, Corporate Governance and Sustainability 596, no. March 2018 (2019): 596–610, https://doi.org/10.1017/9781108658386.049.

36 Indar Fauziah Ulfah, "Analisis Potensi Penerbitan Sukuk Daerah Dalam Pembiayaan Green Infrastructure Di Dki Jakarta," Jurnal Syarikah : Jurnal Ekonomi Islam 9, no. 1 (2023): 1–10, https://doi.org/10.30997/jsei.v9i1.8511.

37 V L Sinta Herindrasti, "Positioning Indonesia in the International World Through Energy Transformation," Journal of Social Political Sciences JSPS 3, no. 2 (2022): 166–87.

and developers would improve knowledge on reducing project risks and boosting project bankability."[38]

This statement shows that obtaining funding for renewable energy investment is a significant obstacle in accelerating the energy transition in Indonesia, including in the transportation sector. For this reason, it is necessary to expand and increase the capacity of funding sources. In addition, innovations such as new financing models are needed, as well as strengthening the capacity of national financing institutions. Additionally, the level of communication between companies and investors will raise project bankability and enhance awareness of how project risks can be managed. Referring to this view, the sustainability of the conversion program should be considered so that in the future, the financing will not only be borne by those who convert electric motors with the help of subsidies from the Government. For this reason, a funding model is needed to succeed in the conversion program, including the opportunity to issue green bond instruments.

As part of the national economic system, the capital market adapts the current national development paradigm, which is also environmentally friendly, including the sub of the capital market, namely bonds. Therefore, the State has designed a sustainable finance roadmap, the implementation of which is contained in the issuance of the Sustainable Finance Roadmap Phase II (2021-2025). The Roadmap is directed at the Sustainable Development Goals or SDGs and their relation to Indonesia's commitment to international agreements related to climate change mitigation.[39] The Roadmap mentions 7 (seven) components of sustainable finance related to:

a. Policy;
b. Products;
c. market infrastructure;
d. Ministry/Institution coordination;
e. Non-Governmental Support;
f. Human Resources; and
g. Awareness.

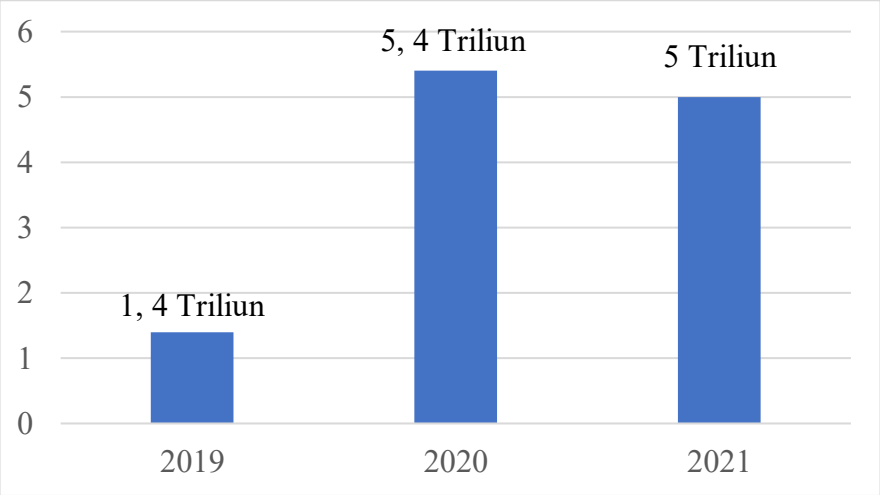
In addition, Indonesia's commitment to climate change mitigation, as stipulated in the Paris Agreement in the form of emission reduction, has also been implemented with the Acceleration of Battery-Based Electric Motor Vehicle Program as specified in Presidential Regulation 55 of 2019. Derived from this Presidential Regulation, several sectoral regulations from related ministries were born, such as Minister of Energy and Mineral Resources Regulation Number 3 of 2023, and so on. The problem of financing the development of KBL businesses can be resolved through one form of green finance in Indonesia, namely, green bonds. In addition to being based on Article 1 number 3 and Article 6 paragraph (2) POJK Number 18 of 2023, Article 8 also states that KUBL can be financed by Green Bond, one of which is related to environmentally friendly transportation, in this case, can be associated with the development of battery electric vehicles.

The development of green bonds requires investors to invest in green bonds. This is because green bond investors have specific characteristics; in addition to their investment goals, they also aim to contribute to innovative climate change financing. The data on green sukuk funds for 2019-2021 still needs to show significant growth compared to other conventional investment instruments.

38 Herindrasti.

39 Neneng Hayati, Erwin Yulianto, and . Syafdinal, "Peranan Keuangan Berkelanjutan Pada Industri Perbankan Dalam Mendukung Sustainable Development Goals," Jurnal Akuntansi Bisnis Dan Ekonomi 6, no. 1 (2020): 1633–52, https://doi.org/10.33197/jabe.vol6.iss1.2020.473.

Table 1. Total Green Retail Sukuk Fund Raising in Indonesia for 2019-2021



Source: https://www.uph.edu/id/event/the-importance-of-green-financing-in-the-enchancement-of-renewable-energy/ 30 Augustus 2024

When it is examined from the perspective of the legal aspects of investment, several aspects should support investment. One of these aspects is a solid legal framework, in this case, the legal arrangement in the field of investment, especially related to sustainable finance, including the green bond. The goal is to provide investors with legal protection and certainty, which is expected to increase their trust.[40] One manifestation of establishing a solid legal framework is synchronizing and harmonizing regulations related to green bonds with rules related to the battery electric vehicle program.

Synchronization in question is to see the conformity and harmony with statutory regulations based on the systematization of positive law, namely between higher and lower laws and regulations.[41] Several models of legal synchronization have been studied in various fields of law to realize conformity and harmony with statutory regulations.[42]

The synchronization model can be carried out both horizontal synchronization, which is the process of adjusting laws and regulations with other regulations in the same hierarchy, and vertical synchronization, which refers to the conformity between statute and the hierarchical level of other higher regulations. The synchronization process is an effort to maintain the consistency of rules and regulations based on a hierarchy of rules and regulations. When associated with the idea, the regulation between POJK green bonds and rules related to the electric motor vehicle program requires synchronization to be implemented with the primary objective of realizing affordable and clean energy.[43]

The discussion related to the efforts of the Acceleration of the Battery Electric Vehicle Program for Road Transportation, as regulated in Presidential Regulation Number 55 of 2019, can be realized in principle through the horizontal synchronization model between the incentives provided as stipulated in Minister of Transportation Regulation Number 55 of 2019 and the subsidies supplied as regulated in Minister of Energy and Mineral Resources Regulation Number 3 of 2023, along with POJK Number 18 of 2023 as one of the sustainable financing instruments. This is because the financing model must rely on more than subsidies or incentives.

The increase in EV usage in society can be accelerated through synchronization of settings and institutional coordination. Thus, it is expected that the dependence on petroleum fuel will be reduced and that the transition to renewable energy sources will be supported if the electricity used comes from clean sources. The Government has committed to reducing greenhouse gas emissions by 318% by 2030, reducing compensation for petalite currently

40 Mas Rahmah, *Hukum Pasar Modal* (Jakarta: Prenada Media, 2019).

41 Litari Elisa Putri* & [2] St. Laksanto Utomo, "Preferen Dalam Proses Konstitusional Indonesia Yakni Undang-Undang Dasar Republik Indonesia Tahun," 2021.

42 Nahrowi Nahrowi, "Sinkronisasi Hukum Perkawinan Beda Agama Di Indonesia," *Al-Syakhsiyyah: Journal of Law & Family Studies* 2, no. 1 (2020): 112–33, https://doi.org/10.21154/syakhsiyyah.v2i1.2163.

43 Loisa Merlin Tegay, Taufiqurrohman Syahuri, and Mardi Candra, "Sinkronisasi Aturan Hukum Dalam Sistem Desentralisasi Regulasi Bagi Daerah Otonomi Khusus Papua," *Salam: Jurnal Sosial Dan Budaya Syar-I* 9, no. 4 (2022): 1167–78, https://doi.org/10.15408/sjsbs.v9i4.27274.

provided, and saving fuel costs for the public.[44]

Similarly, the impact on the environment of electric vehicles does not produce carbon dioxide (CO2) emissions or other pollutants during operation. This contributes to the reduction of local air pollution and climate change mitigation. The Government remains committed to achieving targets such as Net Zero Emission (NZE) by 2060 or earlier, a 32% reduction in Greenhouse Gas (GHG) emissions as outlined in the Enhanced-Nationally Determined Contribution (E-NDC) through domestic efforts, and a 41% reduction with international assistance by 2030.[45]

The synchronization related to the financing scheme through green bonds must also be carried out between the Ministry of Finance institutionally as the ministry authorized to administer central taxes, the Financial Services Authority as the regulator and supervisor in the financial services sector in Indonesia, the Ministry of Industry as the coordinator of the development of the national motor vehicle industry development road map and the Ministry of Energy and Mineral Resources which is currently in charge for electricity affairs.

4. Conclusion

Based on the previous analysis, efforts to accelerate the electric battery-based motorcycle conversion program require a more comprehensive approach than providing incentives and subsidies. Although Minister of Transportation Regulation No. 55 of 2019 and Minister of Energy and Mineral Resources Regulation No. 3 of 2023 provide regulatory foundations and financial support, more than these measures may be required to drive the conversion process effectively.

As a practical solution, the financing scheme through the issuance of green bonds can provide additional benefits. As a sustainable financial instrument, Green bonds can provide the necessary financial support for businesses in the electric battery vehicle sector. The success in accelerating the conversion to battery-based electric vehicles requires support from various relevant financing alternatives. Therefore, it cannot rely solely on incentives and subsidies from the government. On the other hand, regulations supporting the conversion to battery-based electric vehicles can strengthen the legal framework, thereby enhancing the attractiveness of investment in green bonds.

So, green bonds as a financing instrument can encourage Acceleration in realizing net zero emissions, which is part of the 2030 Agenda. To realize this, at least two strategic steps are needed. The first is synchronizing green bond financing legislation with the battery electric vehicle conversion program, which is expected to accelerate the Acceleration of the battery electric vehicle program currently being promoted in Indonesia. Second, coordination is needed between sectoral institutions such as OJK, Ministry of Finance, Ministry of Industry, and Ministry of Transportation to increase green bonds as a financing instrument for converting battery electric vehicles, which is part of business activities oriented towards sustainable development. Through the synchronization model of green bond financing regulations with the battery electric vehicle conversion program and coordination between sectoral institutions, it is expected to accelerate the commitment to realize net zero emission and as an effort to mitigate the energy crisis and reduce fuel energy subsidies in Indonesia.

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45 Humas EBTKE, “Ini Tantangan Program Konversi Motor Listrik,” Direktorat Jenderal Energi Baru, Terbarukan dan Konservasi Energi, accessed August 30, 2024, https://ebtke.esdm.go.id/post/2023/08/14/3570/ini.tantangan.program.konversi.motor.listrik.

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