

Harmonization of Carbon Exchange Regulations Towards a New Era of Capital Markets in Indonesia

Serlly Waileruny¹, Henes Kardinata², Revianty Yovinka³.

01659220099@student.uph.edu, 01659220099@student.uph.edu,
01659220092@student.uph.edu

^{1,2,3}Faculty of Law, Universitas Pelita Harapan Jakarta, Indonesia

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Abstract

This article aims to analyze the legislation in relation to carbon exchanges in Indonesia. furthermore, this article seeks to explain the regulation of carbon exchanges in welcoming the new era of capital markets. The type of research used in this legal writing is normative legal research. This research is prescriptive research. Analysis of legal materials using the deductive method where general formulations are drawn to things that are specific. The result of this research is that the regulation on carbon exchange in Indonesia is regulated through the Financial Services Authority Regulation Number 14 of 2023 concerning Carbon Trading through Carbon Exchange (POJK 14/2023). This POJK is certainly very loaded with welcoming a new era of capital market law in Indonesia, although it is unfortunate that carbon exchange organizers need to obtain OJK permission and not automatically obtain permission from the stock exchange. The conclusion of this research is the need to separate the organizers between the stock exchange and the carbon exchange.

I. Introduction

Climate change can be interpreted as long-term changes in temperature and weather patterns. Climate change as a natural phenomenon which is influenced by various non-natural factors has a significant impact on all countries in the world. Initially this phenomenon occurred as a natural phenomenon, but since the 1800s human activity has made a huge contribution and has acted as the main trigger for significant climate change. Various consequences of human activities, including the burning of fossil fuels including natural gas, coal and petroleum in industry, cause global warming. The increasing process of global warming today is suspected to be caused by the influx of heat energy into the ocean (Sulistiyono,

2012). Burning fossil fuels causes the phenomenon of the release of greenhouse gases (GHG), which then traps heat from the sun in the earth and increases the earth's temperature.

The various impacts and damage caused by climate change are very worrying. Various disasters related to the impact of climate change have greatly affected the social and economic life of countries in the world (Dicky Edwin Hindarto, 2018). In 1972 in Stockholm, Sweden, Kon Human Environment conferencebe a stepa start for countries in the world to overcome the problem of environmental damage. Twenty years later, in Brazil another conference was held in Rio de Janeiro, which succeeded in forming the Rio de Janeiro Declaration. The Rio Declaration contains an international agreement containing 27 principles which basically reiterate the contents of the Stockholm Declaration. Apart from the Rio de Janeiro Declaration, the conference also produced 4 main documents, including; Agenda 21 which contains action plans for the management of various environmental sectors; Convention on Biological Diversity; Forestry Principles; Agreement on non-binding forest management principles; and the United Nations Framework Convention on Climate Change/UNFCCC (UN Framework Convention on Climate Change)The summit was unprecedented for the UN. Twenty years after the first global environmental conference was held, the UN tried to help governments find steps to overcome the problems of pollution and damaged resources. A study explains that there is relevance between carbon emissions and economic growth in 138 countries in the period 1971-2007(Wang, 2013). The results of this study show that if the economy continues to run, it is not impossible that the earth will continue to be hit by crises such as floods, extreme weather, rising sea levels, food shortages and virus outbreaks again.(Kastanya et al., 2021).

The UNFCCC is still in the form of a framework that must be operationalized, so other international agreements are needed as agreements that can operationalize the UNFCCC. In 1992 in Kyoto, Japan, the UNFCCC Conference of the Parties (COP) was held and a stronger protocol was formed and could implement emission reduction mechanisms such as those contained in the UNFCCC (Andreas Pramudianto, 2014). Based on Article 3 of the Kyoto Protocol, developed country parties listed in Annex B are required to make different reductions in 6 types of gas in one package (a basket of six gases) in the period 2008 to 2012. Apart from requiring individual reductions, emission reduction methods through 3 other methods in accordance with the Kyotoa Protocol, namely carbon sinks, bubbling schemes, and flexibility mechanisms (Sukanda Husin, 2016).

Among the three mechanisms referred to above, the most unique and controversial aspect is the flexibility mechanism, which includes a market-based mechanism in achieving compliance targets for countries to reduce emissions, by trading or exchanging emissions reduction targets between countries. at a more affordable price. The market mechanism in question uses three methods, namely: emissions trading, joint implementation and a clean development mechanism (Clean Development Mechanism).Sukanda Husin, 2016). This market-based mechanism became known as carbon trading (Nur Azizi MJ et al., 2023).Carbon trading itself is a market-based mechanism to limit the increase in carbon dioxide (CO₂) levels in the atmosphere by selling carbon quotas that can be absorbed by a group of plants or forests to industrial countries that produce carbon pollution. As part of the Kyoto Protocol, carbon trading has a global perspective that concerns the interests of various parties, both developed and developing countries

As a manifestation of the seriousness and commitment of countries in the world in efforts to control climate change through carbon trading, as well as to continue the commitment to the Kyoto Protocol, at the 21st COP which was held in Paris at the end of 2015, an international agreement was formed to suppress and monitor GHG reduction efforts globally. globally known as the Paris Agreement to the UNFCCC.*Conference of Parties*The 21st (COP) held in Paris on 30 November-11 December 2015 resulted in the Paris Agreement. The conference is a sustainable development to agree on the 2015 Agreement which is legally binding and will take effect after 2020. This Agreement is the culmination of negotiation efforts in the last decade for global regulation of efforts to reduce emissions and control climate change. The birth of the Paris Agreement is an important moment in the history of world climate negotiations, which has a major influence on the process of handling climate change by the party countries.

The increase in greenhouse gas emissions occurred followed by an increase in energy and fossil fuel consumption. Various countries have implemented policies to reduce greenhouse gas emissions, but in this case the most important thing is implementation. Even though there are policies provided for countries to reduce emissions, if they are not implemented, emissions will not be reduced(Masripatin et al., 2016). The carbon trading scheme is one of the most effective policy instruments in Indonesia to increase climate change mitigation efforts. Presidential Regulation Number 46 of 2008 concerning the National Council for Climate Change, carbon trading is defined as "the activity of buying and selling carbon emission reduction certificates from climate change mitigation activities". In this context, the difference between the terms "carbon market" and "carbon trading" is clearly visible, where the market is the cause of the trade.

With regard to efforts to reduce carbon emissions, President Joko Widodo has signed Presidential Regulation Number 98 of 2021 concerning the Economic Value of Carbon or NEK which also provides regulations regarding the carbon market. The Economic Value of Carbon or Carbon Pricing is defined as compensation given by advanced industries or carbon producers to pay for environmental damage caused by CO₂ gas. The Ministry of Environment and Forestry (KLHK) predicts that Indonesia has the potential for additional income of IDR 350 trillion through buying and selling carbon credits (Violleta, 2022). Since the first global carbon trading market was launched in the European Union in 2005, the scale of the international carbon market has grown. Several benefits of carbon pricing or NEK, apart from reducing Green House Gas (GHG) emissions, can also increase green investment, this is because the use of industrial carbon emissions will be less and also NEK becomes additional funds to overcome the climate change financing gap because there is carbon trading.

With regard to regulations on the carbon exchange, Indonesia has ratified the Paris Agreement through Law Number 16 of 2016. The ratification of the Paris Agreement was carried out to fulfill legal needs in the framework of its implementation both at the international and national levels, in accordance with Article 10 of Law Number 24 of 2000 concerning International Agreements. Apart from that, related to the carbon exchange, Presidential Regulation Number 98 of 2021 regulates carbon trading, which is defined as a market-based mechanism to reduce GHG emissions through buying and selling carbon units in domestic and foreign trade. Carbon trading can be done in two ways, namely emissions trading (cap and trade) and GHG emissions offsets. The Ministry of Environment and Forestry issued Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 21 of 2022 concerning Procedures for Implementing the Economic Value of Carbon which regulates the technical rules for carbon trading as a derivative of Presidential Regulation Number 98 of 2021 concerning Implementation of the Economic Value of Carbon which regulates the mechanism carbon trading.

In relation to regulations regarding carbon, there is another Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 21 of 2022 concerning Procedures for Implementing the Economic Value of Carbon states that the emissions traded are greenhouse gas emissions which are gases contained in the atmosphere, both natural and anthropogenic, which absorb and re-emit infrared radiation which is then calculated using agreed measurements. Basically, in this regulation there are four emissions trading: carbon trading, results-based payments, levies on carbon, and other mechanisms according to developments in science and technology. Apart from the three types

of emissions trading above, Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 21 of 2022 provides another carbon trading scheme that adapts to technological developments. Sector ministers in the NDC or other sectors can propose it to the Minister of the Environment to be accommodated in carbon trading by preparing a policy study related to the new mechanism for implementing the NEK along with making a proposal containing the scope, objectives, current conditions, market potential and estimates of economic and social benefits, mechanisms, types of state revenue and support for achieving NDC targets.

Based on the explanation above, it raises questions regarding the regulation of the carbon exchange in Indonesia and how regulation of the carbon exchange in welcoming the new era of capital market law. Indonesia has ratified the Paris Agreement which is the result of the 21st Conference of Parties (COP) held in Paris. There are also derivative rules and regulations in its implementation. Moving on from the matters above, it would be necessary to carry out an in-depth analysis regarding the regulation of the carbon exchange in Indonesia in welcoming the new era of capital market law. In Indonesia with the research title "*Harmonization of Carbon Exchange Regulations Towards a New Era of Capital Markets in Indonesia*".

2. Research Method

The type of research used in legal writing is normative legal research. This research is prescriptive research. In this research, the author uses several approaches that are relevant to the research problems raised, including the statutory approach, case approach and conceptual approach. Furthermore, regarding the data for writing this law, a literature study was carried out with the data sources used being primary legal materials and secondary legal materials. The data obtained is then analyzed qualitatively by interpreting it based on existing theories and applicable regulations or norms and then drawing conclusions about the problems studied (Marzuki, 2014).

3. Results and Discussion

How are the Carbon Exchange Regulations in Indonesia?

The increasing temperature of the earth caused by global warming can cause many very detrimental things, including the melting of polar ice which will affect the lives of living creatures. The possibility of rising sea levels can submerge small islands and further reduce land area, the decline in agricultural productivity that occurs due to climate change, the destruction of various types of biodiversity due to increasing earth temperatures, the clean water crisis is a very worrying global problem. This problem has threatened almost all parts of

the world, including developed countries (which are the main producers of this damage, because they have contributed the largest emissions, with their industry), or developing countries, which are consumers of industrial goods from developed countries (Suhud Nur Fadli, 2010). Developing countries are often the ones blamed for forest destruction because they are thought to have reduced the world's oxygen supply because the forest's ability to absorb world carbon is decreasing.

Various solutions were then promoted by various countries in the world to overcome this problem until in December 1997 a joint agreement was finally reached in Kyoto, better known as the Kyoto Protocol. This protocol has the main objective of reducing world emissions levels, the majority of which are produced by developed countries and requires developed countries to reduce air pollution by 5% in 2012 compared to 1990 (Suhud Nur Fadli, 2010). The target of reducing carbon emissions in this amount will be considered quite difficult for developed countries to achieve. This is because a large reduction in carbon emissions means a large reduction in economic production, so that in the end it will hamper the economic growth of these developed countries.

The results of the agreement concluded in the Kyoto Protocol are divided into mechanisms that are considered to be able to achieve the reduction of emissions as mentioned above, which is a major problem for world climate stability. There are three mechanisms, firstly Joint Implementation, namely cooperation between fellow Annex I countries (developed countries) in an effort to reduce greenhouse gas emissions, secondly, the Clean Development Mechanism is a form of participation from developing countries in helping developed countries reduce greenhouse gas emissions, as well as to achieve development. sustainable in the country developing, and thirdly, Emission Trading, namely a form of exchanging emissions credits between Annex I countries in meeting their targets (Kyoto Protocol).

OJK has previously issued technical regulations regarding Financial Services Authority Regulation Number 14 of 2023 concerning Carbon Trading through the Carbon Exchange (POJK 14/2023) with Financial Services Authority Circular Letter Number 12/SEOJK.04/2023 concerning Procedures for Organizing Carbon Trading Through Carbon Exchange (SEOJK 12/2023). This POJK and SE are part of OJK's efforts to support the Government in implementing climate change control programs by reducing Green House Gas (GHG) emissions, in line with the Paris Agreement commitment, as well as preparing domestic legal instruments to achieve the GHG emission targets. In this context, OJK's task is to supervise Carbon Trading through the Carbon Exchange, which includes, among other things:

- 1) Carbon Exchange Organizer
- 2) Market infrastructure supporting Carbon Trading
- 3) Carbon Exchange Service Users
- 4) Transactions and settlement of Carbon Unit transactions
- 5) Carbon Trading Governance
- 6) Risk management
- 7) Consumer protection
- 8) Parties, products and/or activities related to Carbon Trading through the Carbon Exchange (OJK, 2023).

Previously, Indonesia had known about the Voluntary Carbon Market (VCM) for the last few decades before deciding to form a mandatory carbon market to meet Nationally Determined Contribution (NDC) targets for certain sectors. For example, the Sumatra Merang Peatland project successfully sold 3 million carbon credits to large companies and the Indonesia Climate Exchange (ICX), a trading platform, was created to build an ecosystem for the private sector with a voluntary scheme. On the Voluntary Carbon Market This carbon market demand is formed solely because of the desire to reduce greenhouse gas emissions, and not because there is an obligation to do so. This desire triggers carbon trading between the owner of the desire and the carbon provider, which often occurs directly (over the counter). In some cases, these desires/needs are combined into a collective commitment so that the market enlarges and can attract the involvement of other parties such as intermediaries/brokers, investors and exchange services. Due to its nature of relying on the desire and goodwill to reduce carbon emissions, the volume of the voluntary market is relatively small and difficult to estimate. Nonetheless, recent developments suggest that voluntary carbon market volumes are trending upward steadily.

The opposite of a voluntary carbon market, this type of carbon market is formed because there are policies that require reducing and/or limiting the amount of greenhouse gas emissions. The carbon market is then applied as a means of implementing the policy (policy tool). The Kyoto Protocol is one example of a policy that requires reductions in greenhouse gas emissions but allows the use of carbon markets to meet them. The volume of the mandatory carbon market is highly dependent on the design and scope of the emission reduction/limitation policies implemented, so it is relatively easier to estimate and plan in the long term. In contrast to the voluntary and mandatory carbon market, the trading system is a system that is generally applied in the mandatory carbon market because this system requires limiting greenhouse gas emissions among market participants, either at the installation or organizational level, which is difficult to maintain if the market is voluntary. In this system, every

market participant, which can be an organization, company or even a country, is given an obligation to reduce/limit carbon emissions, which is called a cap (English: plug; hat; lid). Generally, the cap is applied in the form of allocation of emission allowances for market participants which is carried out at the beginning of the period. At the end of the period, participants must deposit (surrender) quota units to the specified institution for the actual emissions they have released. Participants who exceed their cap can purchase additional quota units from those whose quota is unused, thus carbon trading occurs (DNPI, 2013).

In the first stage of carbon trading, 99 PLTUs covering 86% of coal-fired power plants in Indonesia participated in the cap and trade scheme. Each PLTU has a maximum quota or emission quota that is determined based on performance criteria and previous units. For those who emit less than the threshold, they can exchange the remaining quota to another company that exceeds the maximum limit. When a PLTU's emissions exceed the quota given, they must reduce these emissions by purchasing quotas from other PLTUs or buying carbon credits (Fabby Tumiwa et al, 2023).

There is a program initiated by the Financial Services Authority since 2017 regarding tax reporting, namely the Sustainable Finance Program. A sustainability report is a report that contains the economic, financial, social and environmental performance of a business entity. This report adopts the concept of reporting environmental, social and governance (ESG) activities, which is a form of compliance with the principles of responsible investment and the principles of social and environmental risk management. One of the posts that appears in the ESG report is regarding the amount of carbon emissions resulting from the activities of business entities or companies. Even though currently the number of business entities in Indonesia that report their carbon emissions is still small, through the issuance of this POJK we can see the government's efforts to actively involve business entities in efforts to maintain the environment in Indonesia. Strong efforts are needed for the Government to increase companies' interest in reporting their carbon emissions. Reducing carbon emissions requires quite a lot of money, so it will require other long-term funding sources. A carbon tax policy is one solution that can be implemented by the government to meet these other funding sources.

Presidential Regulation (Perpres) Number 98 of 2021 concerning the Economic Value of Carbon (NEK) is the basis for infrastructure development and the framework for its implementation. The birth of the NEK regulation was a response to Article 6 of the Paris Agreement which allows parties to trade carbon to reduce emissions. Some of the instruments offered in this regulation, consisting of carbon trading, results-based payments, and a carbon tax, have been

twice delayed and are expected to be launched in 2025. OJK issued carbon trading regulations through carbon exchanges and officially launched the carbon market on September 26 2023 via Republic of Indonesia Financial Services Authority Regulation Number 14 of 2023 concerning Carbon Trading Through the Carbon Exchange. This means that financing is one solution to bridge the gap in achieving climate targets and plays an important role in increasing awareness of the negative impacts of climate change, especially for the business sector. In Article 1 of General Provisions number 6, what is meant by Carbon Exchange is a system that regulates Carbon Trading and/or records of ownership of Carbon Units. Furthermore, according to the provisions of Article 7 of this POJK, the Carbon Exchange Organizer is the party that organizes and provides the Carbon Exchange.

Next, there is Presidential Regulation Number 98 of 2021 concerning Implementation of the Economic Value of Carbon to Achieve Nationally Determined Contribution Targets and Control of Greenhouse Gas Emissions in National Development. This regulation is a sign that there are incentives for developing a carbon market in Indonesia as well as increasing the role of society and the private sector in reducing emissions which can be included in internal production costs, as well as competitiveness in carbon trading in Indonesia. Now in general, carbon trading can be carried out using two mechanisms, namely mandatory and voluntary carbon markets. This presidential regulation itself actually regulates the implementation of the carbon economic value (NEK). NEK is the value of each unit of greenhouse gas (GHG) emissions produced by human and economic activities in an effort to achieve Indonesia's Nationally Determined Contribution (NDC) target. The implementation of this NEK can be implemented through various means, such as carbon trading; performance-based pay; levies on carbon; and/or other mechanisms determined by the Minister of Environment and Forestry (MenLHK).

Regarding carbon top settings, The Ministry of Environment and Forestry issued Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 21 of 2022 concerning Procedures for Implementing the Economic Value of Carbon which regulates the technical rules for carbon trading as a derivative of Presidential Regulation Number 98 of 2021 concerning Implementation of the Economic Value of Carbon which regulates the mechanism carbon trading. Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 21 of 2022 states that emissions traded are greenhouse gas emissions which are gases contained in the atmosphere, both natural and anthropogenic, which absorb and re-emit infrared radiation which is then calculated using agreed measurements. Basically, in this

regulation there are four emissions trading: carbon trading, results-based payments, levies on carbon, and other mechanisms according to developments in science and technology.

Various legislative provisions have been issued to regulate carbon commercialization. In line with these regulations OJK through Financial Services Authority Regulation Number 14 of 2023 concerning Carbon Trading through the Carbon Exchange (POJK 14/2023) with Financial Services Authority Circular Letter Number 12/SEOJK.04/2023 concerning Procedures for Organizing Carbon Trading through the Carbon Exchange (SEOJK 12/2023) is the first regulation covering carbon trading through exchanges. Where previously in Indonesia, carbon trading was still through voluntary markets and mandatory markets only and this market was implemented solely because of the desire to reduce greenhouse gas emissions, and not because there was an obligation to do so, even the commercialization of carbon.

How are carbon exchanges regulated to welcome the new era of capital market law in Indonesia?

One of the functions of the carbon exchange is emission reduction. By imposing emissions limits and trading permits, carbon exchanges create incentives for companies and other sectors to seek innovative and environmentally friendly ways. In recent years, new carbon market development initiatives have continued to be undertaken around the world. Many countries have or are developing carbon markets, including developing countries such as China, South Korea, South Africa, and others. Indonesia itself will initially continue carbon trading through CDM, especially for projects that have been registered with the UNFCCC, participate in the development of new schemes and at the same time try to develop a domestic carbon market as an alternative to continue developing projects to reduce house gas emissions. glass with market financing. Another alternative is to increase the interest of Indonesian parties to participate in the international voluntary carbon market, which has been running, although with limited interest.

Based on this, in 2023 Indonesia will officially launch its first carbon exchange, but the existence of this carbon exchange is actually not the first in the Southeast Asia (Asean) region. In several countries, carbon exchanges have also started running, in the European Union since 2005, New Zealand since 2008, Kazakhstan since 2013, Canada since 2019, Mexico in 2021. The Indonesian Carbon Exchange (IDXCarbon) was officially launched in September 2023 and the IDX has pocketed Carbon Exchange Operator business license from the Financial Services Authority (OJK) through Decree number KEP-77/D.04/2023 (IDX, 2023). In accordance with OJK Regulation (POJK) Number 14 of 2023

concerning Carbon Trading through the Carbon Exchange, IDXCarbon as the Carbon Exchange Organizer provides a transparent, orderly, fair and efficient trading system.

Apart from providing transparency in prices, IDXCarbon trading also provides an easy and simple transaction mechanism. Currently, there are 4 (four) IDXCarbon trading mechanisms, namely Auction, Regular Trading, Negotiated Trading, and Marketplace. IDXCarbon is connected to the National Climate Change Control Registry System (SRN-PPI) belonging to the Ministry of Environment and Forestry (KLHK), making it easier to administer the transfer of carbon units and avoid double counting. Business actors in the form of companies who have an obligation and/or commitment to voluntarily reduce Green House Gas emissions, can become IDXCarbon Service Users and purchase available Carbon Units. The Indonesian Stock Exchange (BEI), as the organizer of the Carbon Exchange, noted that the first trading of the Carbon Exchange in September 2023 closed with a transaction value of IDR 29.2 billion. BEI recorded carbon trading with a total volume of 459,953 tonnes of carbon units which exceeded the total carbon trading volume of the Malaysian Carbon Exchange (Annisa Kurniasari Saumi, 2023).

Another Asian country that has successfully held a carbon exchange includes Singapore. Through AirCarbon Exchange (ACX) launched in Singapore in 2019 as a digital exchange platform for airlines to trade carbon credits. The company has raised a total of \$3.6 million in funding over 3 rounds. This carbon exchange is funded by Deutsche Borse (Mentari Puspadini, 2023). Carbon swaps on ACX use Distributed Ledger Technology (DLT) technology within a traditional commodity trading architecture. ACX also utilizes the latest blockchain technology which functions to create securitized carbon credits. The bid/offer exchange on ACX functions like a commodity trading exchange, creating price transparency. Additionally, it allows market players to Mark-to-Market the value of carbon in their portfolios. ACX uses a digital warehouse which provides the possibility for investors to easily manage assets in their portfolio. More than 62% of ACX's client volume comes from Singapore/SEA, while >55% of projects come from Australia (Mentari Puspadini, 2023).

Apart from Singapore, another Asian country, namely Malaysia, has started a carbon exchange earlier than Indonesia. Bursa Malaysia said that the Bursa Carbon Exchange (BCX) had successfully carried out its first carbon credit auction on March 16 2023. This electronic auction recorded the participation of 15 buyers from various industries who purchased a total of 150,000 carbon credits registered with Verra. Meanwhile, Thailand is also recorded as having launched a voluntary carbon credit exchange with The Federation of Thai Industries as the

organizer of the carbon trading. This carbon market consists of around 12,000 private companies from 45 sectors in Thailand. The platform allows companies and government agencies to buy and sell carbon credits, as well as track their emissions. However, there is no recorded transaction data from this platform (Annisa Kurniasari Saumi, 2023).

Apart from Asian countries, London-based Carbon Trade Exchange (CTX) was one of the earliest players in the global carbon market, dating back to 2009. Different from other carbon exchanges, CTX is a member-based spot exchange with a wide range of participants. Starting from individual brokers and project developers to large corporations. CTX enables credit trading from several different industry standards including the Gold Standard, Verra Verified Carbon Standard, and the United Nations Clean Development Mechanism (UNFCCC). The BioCarbon Registry is the newest addition, starting April 2022. Buyers can make purchases and terminate credits in amounts of 100 tons of CO₂e, which is CTX's minimum trading volume. Other carbon exchanges have a minimum equivalent of 1,000 tonnes, or 1,000 credits. Next there is US-based Xpansiv, where it became one of the carbon exchanges affiliated with the Australian CBL platform in 2019. The company has proven very popular with investors, having raised a total of \$178.5 million in funding over 7 rounds. Xpansiv itself is a global market for trading various data-based and ESG-inclusive commodities. These exchanges price carbon, energy, and water-based transactions. By holding around 90% of all voluntary carbon credit transactions worldwide, Xpansiv is currently the dominant player in the market (Mentari Puspadini, 2023).

So far, Services Authority Regulations Finance Number 14 of 2023 concerning Carbon Trading through the Carbon Exchange (POJK 14/2023) has become a POJK that really supports the establishment of the first Carbon Exchange in Indonesia. Apart from being intended to provide support for the Government's tips for implementing climate change control programs through reducing Green House Gas (GHG) emissions and preparing domestic legal instruments to achieve the GHG emission targets, this POJK and SE are also full of Indonesia's decarbonization commitment towards Net Zero Emissions by 2060 or sooner. IDX through IDXCarbon strives to provide transparency, reliability and security in providing the best solutions for carbon trading in Indonesia so as to create orderly, fair and efficient trading. By providing a platform that prioritizes user experience, it is hoped that all business actors can easily gain benefits from carbon trading. In the context as stipulated in the POJK above, OJK's task is to supervise Carbon Trading through the Carbon Exchange which includes the implementation of products and/or activities related to Carbon Trading through the Carbon Exchange.

The regulation of the carbon exchange in welcoming the new era of capital market law will certainly be a new door for carbon commercialization. With Indonesia following suit in launching its Carbon Exchange, it is a new chapter in the world of carbon, where previously carbon in Indonesia had not been seen as an opportunity other than to reduce greenhouse gas emissions. Ratification of Law no. 4 of 2023 is expected to become an effective technical regulation for carbon exchanges. The urgency of this carbon exchange regulatory device can accelerate the positive impact of the potential for a nature-based green economy or carbon credit potential. Carbon exchanges are very necessary to support the acceleration of the Net Zero Emission target in 2050 because this sector which has positive carbon units will receive incentives from the carbon trading scheme. Apart from that, the establishment of a carbon exchange is able to increase validation of more accurate data and a real-time basis for carbon transactions. In several countries that have implemented carbon exchanges, the positive side of establishing a carbon exchange helps determine a reference price for carbon units that is comparable to global standards (Mochamad Januar Rizki, 2023).

In connection with the reference standards for carbon exchanges in several countries, the ideal form of organizing a carbon exchange is to separate the carbon exchange from the stock exchange. For example, the organizer of the carbon exchange in the US is the Intercontinental Exchange (ICE), while for stock exchanges there are the New York Stock Exchange (NYSE) and Nasdaq. The importance of regulating carbon exchanges in the Draft Financial Services Authority Regulations (RPOJK) provides fair competition space for every organizer who wants to be involved. Article 24 of the PPSK Law itself states that carbon exchanges can only be held by organizers who have obtained an OJK business permit, not automatically from stock exchange organizers.

Basically, the function of the carbon exchange is as price discovery (finding a carbon reference price), while the stock exchange has the function of finding funds for issuers. The proposal for the stock exchange to become the organizer of the carbon exchange raises various big questions regarding the design of the carbon exchange and the effectiveness of carbon trading in Indonesia. There is a need to be careful in formulating regulations for carbon exchange organizers because in the future technology companies may emerge as organizers that are not part of the stock exchange. Innovations that emerge in the carbon exchange ecosystem need to be facilitated by OJK. It would be very possible if the organizers were only limited to stock exchanges which automatically became carbon exchange organizers, this could hamper the pace of carbon market innovation (Mochamad Januar Rizki, 2023).

4. Conclusion

Regulations regarding the Carbon Exchange in Indonesia are regulated in the Financial Services Authority Regulation Number 14 of 2023 concerning Carbon Trading through the Carbon Exchange (POJK 14/2023) which was issued with the Financial Services Authority Circular Letter Number 12/SEOJK.04/2023 concerning Implementation Procedures Carbon Trading Through the Carbon Exchange (SEOJK 12/2023). This POJK is a guideline and reference for Carbon Trading through the Carbon Exchange which is implemented by market organizers. This POJK is of course very full of thingswelcoming a new era of capital market law in Indonesia. This carbon exchange regulation can accelerate the positive impact of nature-based green economic potential or carbon credit potential. The presence of a carbon exchange is very necessary to support the acceleration of the Net Zero Emission target in 2050 because this sector which has positive carbon units will receive incentives from the carbon trading scheme. The presence of POJK 14/2023 really accommodates the realization of the first carbon exchange in Indonesia, however it is quite unfortunate that the organizer of the carbon exchange is on the IDX because it would be better if there was a separation of organizers between the stock exchange and the carbon exchange. Current conditions raise various big questions regarding the design of carbon exchanges and the effectiveness of carbon trading in Indonesia. Apart from that, this could create the possibility of hampering the pace of carbon market innovation. If indeed the organizer of the carbon exchange must be in the domain of the IDX, the exchange organizer does not need to obtain permission from the OJK, just permission from the stock exchange.

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