

# **Good Environmental Governance Mainstreaming in Preparation for the Implementation of Carbon Trading in Indonesia**

Novia Faradila, Dewi Shafarhunny Aqilla

*Universitas Gadjah Mada, Yogyakarta, Indonesia*

---

## **Abstract**

Climate change is a global problem that is often echoed. Indonesia has an obligation to reduce greenhouse gas emissions by 29%-41% in accordance with Indonesia's commitment in the Nationally Determined Contribution (NDC). The Government's initiative in reducing Indonesia's greenhouse gas emissions was then demonstrated by issuing Presidential Regulation Number 98 of 2021 which regulates the implementation of carbon economic values carried out through mitigation and adaptation efforts. One of the steps mentioned as mitigation and adaptation efforts is carbon trading. Carbon trading is the answer to the conflicting interests of pursuing a reduction in greenhouse gas emission targets as well as increasing economic growth in Indonesia. This is supported by the existence of several factors that make carbon trading a great potential in Indonesia, including economic factors,

environmental factors, and legal factors. This research is a normative juridical research and uses non-interactive qualitative research methods. In this study it was found that using the principles of Good Environmental Governance (GEG) can be a solution for the implementation of carbon trading in Indonesia later. That is by using the GEG principles which include participation, accountability, transparency, rule of law, and effectiveness and efficiency. With the implementation of this principle, the Government should immediately prepare itself carefully. Furthermore, the implementation of GEG needs to be supported by strong political will. Thus, carbon trading can be carried out optimally and bring benefits to all Indonesian people.

## Keywords

*Carbon Trading; Good Environmental Governance; Indonesia's Economic Growth*

## I. Introduction

Climate change that is happening at this time is concerning to all countries, not only from developing countries, but also starting to be voiced by developed countries. On the other hand, developing and underdeveloped countries are incessantly carrying out development. The main impact of the current development is the increasing amount of greenhouse gas (GHG) emissions produced. The data shows that since the beginning of the 21st century there has been a constant increase in GHGs until now. In 2019, according to data released by the Ministry of Environment and

Forestry, Indonesia produced 1,866,552 Gg CO<sub>2</sub>e of GHG emissions, an increase of 680,324 Gg CO<sub>2</sub>e compared to the emission levels in the year 2000, in which the majority of Indonesia's GHG emissions came from the energy sector.<sup>1</sup> The increasing amounts of GHG has made the United Nations (UN) efforts to appear to reduce GHG emissions produced by each country. With the interest in carrying out national development and efforts to reduce GHG emissions, there are conflicting interests between developed and developing countries.

This was the trigger for the establishment of the Kyoto Protocol in 1997. One of the things regulated in the Kyoto Protocol is the mechanism for reducing GHG emissions implemented by developed countries, namely: 1) Joint Implementation (JI); 2) Emission Trading; and 3) Clean Development Mechanism).<sup>2</sup> By 2015, the agreement was renewed in the Paris Agreement at COP-21. In the Paris Agreement, resulted in an agreement to restrain the increase in global average temperature well below 2 degrees celsius and reduce temperature rises above 1.5 degrees celsius.<sup>3</sup> As one of the countries that ratified the Paris Agreement, Indonesia has an obligation to obey and adopt the norms the agreement into Indonesian national law.

---

<sup>1</sup> Kementerian Lingkungan Hidup dan Kehutanan Direktorat Jenderal Pengendalian Perubahan Iklim dan Direktorat Inventarisasi GRK dan MPV, *Laporan Inventarisasi Gas Rumah Kaca (GRK) dan Monitoring, Pelaporan, Verifikasi (MPV) 2020*, Jakarta: 2021, pp. 50.

<sup>2</sup> Direktorat Jenderal Pengendalian Perubahan Iklim. *Konvensi Perubahan Iklim*. Kementerian Lingkungan Hidup dan Kehutanan, <http://ditjenppi.menlhk.go.id/kcpi/index.php/tentang/amanat-perubahan-iklim/konvensi>. [accessed on 2 October 2022].

<sup>3</sup> Andreas Pramudianto, "Dari Kyoto Protocol 1997 Ke Paris Agreement 2015: Dinamika Diplomasi Perubahan Iklim Global Dan Asean Menuju 2020", *GLOBAL* 18(1), Mei 2016, pp. 85.

From there, the Law of the Republic of Indonesia Number 16 of 2016 concerning Ratification of the Paris Agreement to The United Nations Framework Convention on Climate Change was issued (“UU 16/2016”). One of the obligations that Indonesia needs to fulfill as a party to the Paris Agreement is the required instrument to be submitted to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC) every 5 (five) years which is referred to as the Nationally Determined Contribution (NDC).<sup>4</sup> This document is used as a form of transparency regarding Indonesia's commitment to carrying out the points outlined in the Paris Agreement to reduce GHG emissions in accordance with the Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC) principles. This principle means that developed and developing countries are responsible for global environmental problems based on their historical responsibility and capabilities.<sup>5</sup> After experiencing a long journey in tackling GHG emissions, in 2021 the Government of Indonesia issued a Presidential Regulation Number 98 of 2021 concerning The Implementation Of Carbon Economic Value To Achieve Nationally Determined Contribution Targets And Control Over Greenhouse Gas Emissions In Relation To National Development (“Presidential Decree 98/2021”). This Presidential Regulation was issued as an effort to place the economic value of carbon as an instrument in realizing the Government's obligation to contribute to reducing

---

<sup>4</sup> Amira Bilqis dan Arie Afriansyah, “Paris Agreement: Respon Terhadap Pendekatan Prinsip Common But Differentiated Responsibilities and Respective Capabilities dalam Kyoto Protocol”, *Jurnal Penelitian Hukum De Jure* 20(1), September 2020, pp. 401.

<sup>5</sup> *Ibid.*

GHG emissions.<sup>6</sup> This regulation as an efforts to reduce GHG emissions that are carried out by mitigation and adaptation in four ways including, carbon trading include emission trading and carbon offsets, performance-based payments, carbon levies, and other mechanisms in accordance with knowledge and technology developments stipulated by the Minister.<sup>7</sup> This is done for two reasons, namely to realize Indonesia's commitment towards NDC, and is expected to encourage more green financing and investment so that it has an impact on reducing GHG emissions.<sup>8</sup>

However, currently there are still differences of opinion regarding the implementation of carbon trading in Indonesia. One of the counterarguments is regarding how carbon trading is only to take economic advantage without thinking about the impact that will be given to the people who live around forest areas.<sup>9</sup> Whereas, with a good mechanism, the implementation of carbon trading can benefit all parties, including the government,

---

<sup>6</sup> Galuh Alkalis. "Tekan Emisi GRK, Pemerintah Terbitkan Perpres 98/2021 Tentang Ini". Ruang Energi, 15 November 2021, <https://www.ruangenergi.com/tekan-emisi-grk-pemerintah-terbitkan-perpres-98-2021-tentang-ini/>.

<sup>7</sup> Article 47(1) Regulation of The President of The Republic of Indonesia Number 98 of 2021 on The Implementation of Carbon Economic Value to Achieve Nationally Determined Contribution Targets and Control Over Greenhouse Gas Emissions In Relation To National Development (State Gazette of the Republic of Indonesia of 2021 Number 249).

<sup>8</sup> OJK.go.id. "Perdagangan Karbon, Instrumen Baru Pembangunan". OJK, 13 Januari 2022, <https://www.ojk.go.id/keuanganberkelanjutan/id/newsmedia/detailnews/2937/perdagangan-karbon-instrumen-baru-pembangunan>

<sup>9</sup> Parid Ridwanuddin. "Isu Lingkungan Hidup dan Iklim di WTO: Untungkan Negara Maju, Rugikan Negara Berkembang". Indonesia for Global Justice, 10 November 2021, <https://igj.or.id/isu-lingkungan-hidup-dan-iklim-di-wto-untungkan-negara-maju-rugikan-negara-berkembang/>.

corporations, and society. The need for deeper socialization to provide sufficient understanding for the parties. With that being said, the authors would like to provide recommendations regarding appropriate preparatory steps if later Indonesia will carry out carbon trading practices in Indonesia.

Therefore, this paper analyzes three main point concerning, *first*, how is the potential on implementing carbon trading in Indonesia, *second*, what are the challenges on implementing carbon trading in Indonesia, and *third*, how is Good Environmental Governance Mainstreaming will be applied in preparation for the implementation of carbon trading in Indonesia?

## II. Method

The research method used in this study is a normative legal method that focuses on the formulation of problems and hypotheses through sampling, measuring variables, making analytic designs, and collecting data that ends at a conclusion. Then the approach used in this study is legal were by examining laws and regulations relating to legal issues regarding carbon trading in Indonesia with qualitative non-interactive research methods which emphasizes logical analysis and describes and concludes narratively.<sup>10</sup> There is one source and type of data used in this study, namely secondary data sources. The secondary data is includes primary and secondary legal materials. The primary legal materials are obtained from various laws and regulations and

---

<sup>10</sup> Asep Saepul Hamdi. *Metode Penelitian Kuantitatif Aplikasi dalam Pendidikan*, (Yogyakarta: Deepublish, 2014), pp. 4.

other regulations. Secondary legal materials come from various journals, books, and research results related to carbon trading.

In this article, the author also used the normative legal research that prioritizes library research activities, namely the process of collecting data accompanied by a review of library materials and presenting data at the same time as the analysis.<sup>11</sup> The author uses deductive reasoning to compile and analyze data, namely a way of thinking that starts with from things that are general to conclusions that are specific.<sup>12</sup> In processing the data, the author uses the deduction method, namely concluding concrete knowledge regarding the correct and appropriate rules to be applied to solve a particular problem.<sup>13</sup> The analysis is continued by compiling systematically to clarify in finding solutions to problems so that conclusions and suggestions can be drawn.<sup>14</sup> In this scientific paper, the author formulates practical and realistic suggestions to be implemented as a solution for preparing for the implementation of carbon trading in Indonesia.

### III. The Potential of Carbon Trading in Indonesia

---

<sup>11</sup> Soerjono Soekanto & Sri Mamudji. *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*, (Jakarta: Rajawali Pers, 2001), pp. 23.

<sup>12</sup> Sri Soemantri Martosoewignjo, *Persepsi terhadap Prosedur dan Sistem Perubahan Konstitusi dalam Batang Tubuh Undang-Undang Dasar 1945*, (Bandung: Alumni, 1987), pp. 8-9.

<sup>13</sup> Bambang Sunggono. *Metode Penelitian Hukum*, (Jakarta: Rajagrafindo Pers, 2010), pp. 71.

<sup>14</sup> Soerjono Soekanto dan Sri Mamudji, *Op.Cit.*, pp. 13.

In order to meet Indonesia's need to reduce GHG, in 2021, the Government announced the Presidential Decree 98/2021. Nonetheless, the implementation of carbon trading in Indonesia is still in the planning process because there are so many things that must be considered, both from legal readiness, arrangements that accommodate the interests of the parties involved, and the need to pay more attention to the welfare of society at large. Basically, Presidential Decree 98/2021 has defined carbon trading as a market-based mechanism for reducing GHG emissions. From this, carbon trading is used as a mechanism to increase economic income in Indonesia, and in a sustainable manner it is expected to be able to maintain natural resource ecosystems in Indonesia.

At this time, Indonesia is in the stage of postponing carbon trading as contained in a letter issued by the Ministry of Environment and Forestry through S.798/MENLHK-PHPL/KPHP/HPL.0/5/2021. This is due to the absence of a legal system, regulations, as well as institutions that clearly cover the future when carbon trading is carried out in Indonesia. However, this does not rule out how in the future the implementation of carbon trading will work in Indonesia. Though, the implementation of carbon trading in Indonesia is still based on many internal and external factors that support carbon trading. The supporting factors will be explained as follows:

### *1. Economic Factor*



Long before the issuance of Presidential Decree 98/2021, Indonesia had carried out carbon trading in 2005 using the Clean Development Mechanism (CDM) system.<sup>15</sup> CDM was one of the mechanisms introduced during the Kyoto Protocol.<sup>16</sup> In short, the CDM mechanism is carried out between countries that are in Annex 1 (developed countries) and non-Annex 1 countries by trading Certified Emissions Reductions (CERs) equivalent to 1 ton CO<sub>2</sub>.<sup>17</sup> Then, these CERs are traded through existing carbon trading exchanges. Relations between countries occur when Annex 1 countries buy their CERs through non-Annex 1 countries to be able to claim emission reduction targets from Annex 1 countries.<sup>18</sup>

In 2015, according to the Ministry of Environment and Forestry, stated that the CDM had managed to reduce carbon by 10,097,175 tons of CO<sub>2</sub>e and 329,483 tons of CO<sub>2</sub>e from the carbon trade carried out between Indonesia and Japan.<sup>19</sup> The collaboration resulted in an investment of US\$150 million or IDR 2.1 trillion.<sup>20</sup> From this it can be seen that if carbon trading can be used as a commodity for parties that emit excessive greenhouse

---

<sup>15</sup> Putu Sukma Kurniawan, "Manfaat Perdagangan Karbon bagi Ekonomi dan Lingkungan Indonesia", *The Conversation*, 16 November 2020, <https://theconversation.com/manfaat-perdagangan-karbon-bagi-ekonomi-dan-lingkungan-indonesia-144077>. [accessed on 24 September 2022].

<sup>16</sup> Ade Bebi Irama. "Perdagangan Karbon di Indonesia: Kajian Kelembagaan dan Keuangan Negara". *INFO ARTHA* 4(1), Juni 2020, pp. 83.

<sup>17</sup> *Ibid.* pp. 89.

<sup>18</sup> *Ibid.*

<sup>19</sup> Direktorat Jenderal Pengendalian dan Perubahan Iklim. "Perdagangan Karbon: Apa Implikasinya terhadap Pemenuhan Komitmen Indonesia Pasca 2020?", Kementerian Lingkungan Hidup dan Kehutanan, <http://ditjenppi.menlhk.go.id/berita-ppi/2682-press-release-perdagangan-karbon.html>. [accessed on 3 October 2022].

<sup>20</sup> *Ibid.*

gases, it will also play a big role in the context of income for the state. From Indonesia's experience in trading carbon in previous years, it proves that it is profitable. One of the state revenues that can be obtained through carbon trading is through Non-Tax State Revenue (PNBP).<sup>21</sup> By conducting carbon trading, Indonesia will receive PNBP originating from the realization of income from goods and services (Public Service Agency Revenue/BLU).

## 2. *Environmental Factor*

It is also undeniable that carbon trading is not only beneficial for the economy, but also to encourage GHG emission reductions. In accordance with Indonesia's commitment to the NDC, Indonesia is required to pursue an emission reduction target of 29% with Business as Usual (BAU) and 41% with international assistance in 2030.<sup>22</sup> With the need to achieve the target, it is certainly a burden for the Indonesian Government how to reduce GHG emissions, as well as the need to design appropriate policies to be implemented for emitters so that they can support Indonesia's NDC targets. Carbon trading here can not only help Indonesia to further improve economically, but also from an environmental perspective.

One of the real benefits arising from carbon trading is related to how the implementation of carbon trading can answer the

---

<sup>21</sup> Ade Bebi Irama. *Op. Cit.*, pp. 86.

<sup>22</sup> Syaharani dan Muhammad Alfitras Tavares. "Nasib Target Emisi Indonesia: Pelemahan Instrumen Lingkungan Hidup di Era Pemulihan Ekonomi Nasional". *Jurnal Hukum Lingkungan Indonesia* 7(1), 2020, pp. 1.

problem of deforestation while increasing people's welfare. One mechanism that can be implemented to encourage carbon trading from an environmental perspective is to look at it from the point of view of the cap-and-trade mechanism. This mechanism encourages parties who have been given an allowance, in the form of emission limits issued, to update the system to reduce the GHG emissions released.<sup>23</sup> This is because in this mechanism, if the parties do not comply, the parties are obliged to buy from the others who still have the remaining allowance limits.<sup>24</sup> From a company perspective, it would be more efficient to upgrade the system so as to reduce the resulting GHG emissions, compared to having to buy the remaining allowance owned by other parties.<sup>25</sup>

In line with the implementation of carbon trading, Indonesia has a very large forest area, which is 180 million hectares.<sup>26</sup> Data shows that Indonesia has a carbon reduction capacity of more than 686 million tons that comes from forest management.<sup>27</sup> This is directly proportional to the potential for

---

<sup>23</sup> Ikhsan Emerald Alamsyah, "Untung Rugi Perdagangan Karbon bagi Perusahaan di Indonesia", *Republika*, 26 Agustus 2022, <https://sindikasi.republika.co.id/berita/rh7dic318/untung-rugi-perdagangan-karbon-bagi-perusahaan-di-indonesia>. [accessed on 3 October 2022].

<sup>24</sup> Gora Kunjana, "Ini Tantangan dan Peluang Perdagangan Karbon di Indonesia", *Investor Daily*, 3 Desember 2021, <https://investor.id/market-and-corporate/273230/ini-tantangan-dan-peluang-perdagangan-karbon-di-indonesia>. [accessed on 3 October 2022].

<sup>25</sup> Ikhsan Emerald Alamsyah. *Loc. Cit.*

<sup>26</sup> Tri Kurnia Yuniyanto, "Punya Hutan Luas, RI Bisa Raup Rp 350 Triliun Dari Perdagangan Karbon", *Katadata*, 16 Januari 2020, <https://katadata.co.id/ameidyonasution/berita/5e9a49909b2b2/punya-hutan-luas-ri-bisa-raup-rp-350-triliun-dari-perdagangan-karbon>. [accessed on 3 October 2022].

<sup>27</sup> News.detik.com, "Perdagangan Karbon, Menjual Kelestarian Hutan", *Detik News*, 13 Agustus 2009, <https://news.detik.com/kolom/d->

economic growth that will be obtained by Indonesia while doing carbon trading. It can be concluded that the more forests are maintained, the denser the distance between trees between forests, the greater the absorption of carbon that will be carried out, the more potential funds that will be received by Indonesia will also increase.

### 3. *Legal Factor*

Paris Agreement which was held at COP-21 in 2015, has been ratified by Indonesia based on Law Number 16/2016.<sup>28</sup> With the ratification of the Paris Agreement, countries that adopt the agreement are required to have a commitment in the form of a Nationally Determined Contribution (NDC). Updated NDC which was last given by Indonesia to the UNFCCC on 22 July 2021, which is presented at the COP-26 meeting which held in Glasgow, 31 October – 12 November 2021.<sup>29</sup>

In the updated NDC, Indonesia stated that with Indonesia's current condition, will be able to achieve a balance of reducing emissions and achieving economic development in Indonesia. In addition, at the same time Indonesia provided the document Long-term Strategy on Low Carbon and Climate Resilience 2050 (LTS-LCCR 2050). Basically, the two documents that Indonesia provided to the UNFCCC explain Indonesia's climate targets to

---

1182448/perdagangan-karbon-menjual-kelestarian-hutan. [accessed on 3 October 2022].

<sup>28</sup> Anak Agung Made Ngurah Panca Septiadi & Made Maharta Yasa. "Kekuatan Mengikat Paris Agreement kepada Negara-Negara Anggotanya". *Jurnal Kertha Desa* 9(8), pp. 13.

<sup>29</sup> Global Green Growth Institute. *Mewujudkan Pertumbuhan Ekonomi Hijau untuk Indonesia yang Sejahtera Sebuah Peta Jalan untuk Kebijakan, Perencanaan dan Investasi* (Jakarta: Sintesis, 2015), pp. 45.

reduce emissions by 29% -41% in 2030 and net zero emissions in 2060 or sooner.<sup>30</sup>

Therefore, Indonesia is directly bound by the Paris Agreement and each of Indonesia's targets to reduce its emissions by a certain percentage within a certain period.<sup>31</sup> With a target of reducing emissions by 29%-41%, it will not be easy if Indonesia does not take concrete steps to achieve this. One way that Indonesia can do is by doing carbon trading. Carbon trading does not only aim to improve the Indonesian economy to achieve prosperity. More than this, carbon trading, which, if later required for certain sectors, will be able to help reduce GHG. This is done by imposing limits on emissions issued to emission-producing companies. In the long term, companies that emit GHG emissions will be required to be able to reduce their emissions or they can also trade carbon by transacting the remaining allowances from other companies.

## IV. Challenges of Carbon Trading in Indonesia

As previously explained that carbon trading has the opportunity to be implemented in Indonesia. The implementation of this

---

<sup>30</sup> IESR.or.id, "Target Penurunan Emisi di Updated NDC Indonesia Tidak Refleksikan Urgensi Hindari Krisis Iklim", Institute for Essential Services Reform, 30 Juli 2021, <https://iesr.or.id/target-penurunan-emisi-di-updated-ndc-indonesia-tidak-refleksikan-urgensi-hindari-krisis-iklim>. [accessed on 25 September 2022].

<sup>31</sup> Anak Agung Made Ngurah Panca Septiadi dan Made Maharta Yasa. *Op.Cit.*, pp. 21.

mechanism is implemented by reducing emissions released by large industries by applying an economical approach. Such an approach makes carbon trading closely related to business schemes. However, there are several conditions that need to be understood in order carbon trading can be carried out properly in Indonesia. In this section, the authors will try to describe some of the challenges that need to be concerns in regards the implementation of carbon trading in Indonesia.

Some parties certainly consider carbon trading to be a promising solution, but it cannot be denied that some parties are also against the implementation of carbon trading. Several Non-Governmental Organizations (NGOs) have conducted joint press releases to state their position on carbon trading. Through the press release of the Civil Society Coalition on Carbon Trading Discussion at COP-26 in Glasgow, Indigenous Peoples Alliance (*Aliansi Masyarakat Adat/AMAN*), Greenpeace Indonesia, Indonesian Forum for the Environment (*Wahana Lingkungan Hidup Indonesia/WALHI*), and Forest Watch Indonesia (FWI) consider that carbon is a false solution to overcome current climate crisis.<sup>32</sup> There is resistance from NGOs related to carbon trading because it is considered that carbon trading can perpetuate injustice for people who are vulnerable to the climate crisis and the presence of this market mechanism can perpetuate conflict with the community because it is considered an action that will seize

---

<sup>32</sup> Greenpeace Indonesia, “Perdagangan Karbon adalah Solusi Palsu Mengatasi Krisis Iklim”, Greenpeace. <https://www.greenpeace.org/indonesia/siaran-pers/45509/perdagangan-karbon-adalah-solusi-palsu-mengatasi-krisis-iklim/>. [accessed on 23 September 2022].

land and forests systemically.<sup>33</sup> It is also considered that Indonesia is not yet fully ready to implement carbon trading references at the current level of deforestation and forest and land fires.<sup>34</sup> Furthermore, carbon trading is also considered as a corporate action to carry out greenwashing under the guise of climate recovery which in reality is not serious about reducing its emissions.<sup>35</sup>

In addition, AMAN conveyed its criticism of carbon trading which was initiated by the Government through its 2021 Year End Notes which has the title "Resilient in the Middle of Crisis". AMAN considers that the presence of Presidential Decree 98/2021 has exacerbated the vulnerability of indigenous peoples because of the eroding guarantee of legal protection and will perpetuate tenurial conflicts that have occurred for a long time.<sup>36</sup> AMAN stated that the position and rights of indigenous peoples in Presidential Decree 98/2021 are not mentioned at all, thus opening up opportunities for discrimination against indigenous peoples.<sup>37</sup> This view arose based on criticism of the regulation regarding carbon ownership by the state contained in Presidential Decree 98/2021 contrary to the concept of State Controlling

---

<sup>33</sup> WALHI, "Siaran Pers WALHI: Menolak Solusi Palsu, Menuntut Keadilan Iklim", WALHI, 8 November 2021, <https://www.walhi.or.id/menolak-solusi-palsu-menuntut-keadilan-iklim>. [accessed on 23 September 2022].

<sup>34</sup> Greenpeace Indonesia, *Loc. Cit.*

<sup>35</sup> Lusya Arumningtyas dan Indra Nugraha, "COP26: Organisasi Masyarakat Sipil Khawatir Perdagangan Karbon Hanya Solusi Palsu bagi Iklim", Mongabay: Situs Berita Lingkungan, 4 November 2021, <https://www.mongabay.co.id/2021/11/04/cop26-organisasi-masyarakat-sipil-khawatir-perdagangan-karbon-hanya-solusi-palsu-bagi-iklim/>. [accessed on 23 September 2022].

<sup>36</sup> AMAN, *Catatan Akhir Tahun 2021: Tangguh di Tengah Krisis*, (Jakarta Selatan, 2022), pp. 11.

<sup>37</sup> *Ibid.*

Rights (*Hak Menguasai Negara/HMN*) in accordance with Constitutional Court Decision No.35/PUU-X/2012, in which the decision states that HMN does not apply to indigenous peoples' territories, including one of which is customary forest.<sup>38</sup>

Based on the rejection of carbon trading, it can be seen that the coalition of NGOs questioned the position of justice and the suitability of carbon trading as a mechanism that is predicted to be able to overcome the climate crisis. Apart from that, it is also understandable that the coalition of NGOs also highlights that carbon trading mechanism which places too much emphasis on corporate activities and does not place the rights of the community at large. Criticism of guaranteeing justice for the wider community in the implementation of carbon trading is not new. In countries such as Brazil, Russia, India, China, and South Africa, the elite group is very aggressive in encouraging the implementation of carbon trading because this group feels that they will benefit directly without having to make huge sacrifices to participate in climate change mitigation efforts.<sup>39</sup> Therefore, such criticism is justified criticism.

Criticism also comes from the view of the corporation which is the main subject of the implementation of this carbon trading mechanism. Corporations are also burdened by policies to implement carbon trading. With carbon trading, corporations will have to make a lot of adjustments to their business processes so that the emissions released do not exceed the threshold so that they

---

<sup>38</sup> *Ibid.*

<sup>39</sup> Böhm, S., Misoczky, M. C., & Moog, S. (2012). "Greening Capitalism? A Marxist Critique of Carbon Markets". *Organization Studies*, 33(11), 1617–1638.



can increase their spending costs.<sup>40</sup> This condition occurs in the implementation of carbon trading in China, where several corporations in China state that they need structural reforms accompanied by targeted policies by the Chinese Government, such as the distribution of subsidies and bilateral cooperation agreements related to financial assistance.<sup>41</sup> This is considered far more appropriate than simply legalizing carbon trading without providing assistance.<sup>42</sup> Furthermore, some corporations argue that the Government China is lacking in providing assistance related to the implementation of carbon trading. The Chinese government often provides training and education to government officials regarding carbon trading, but it seems as if it hands off to corporations, which in this case are the main actors, instead they have to seek consulting services from outside, of course this becomes an additional burden for corporations involved in carbon trading.<sup>43</sup> This problem is indeed understandable because the corporation is forced to make many adjustments so that operational activities can run according to existing legal standards. However, the lack of assistance from the Government is certainly unfortunate. Thus, the corporation will of course incur a lot of additional costs and will increase the burden. Conditions like this should be a concern for all because the potential for non-compliance by corporations in the implementation of carbon trading can be very high.

---

<sup>40</sup> Lohmann, L. (2008). "Carbon Trading, Climate Justice, and the Production of Ignorance: Ten Examples". *Development* (51), 359-365.

<sup>41</sup> Shen, W. (2015). "Chinese Business at the Dawn of its Domestic Emissions Trading Scheme: Incentives and Barriers to Participation in Carbon Trading". *Climate Policy*, 15(3), 339-354.

<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*

Judging from the point of view of policy implementation, there is an assumption that carbon trading is a policy that only benefits the Government alone. This is because policy formation is seen as if it directly imposes costs on carbon trading actors, namely business actors or corporate parties.<sup>44</sup> In addition, clarity regarding the results of carbon trading in efforts to tackle the climate crisis is often debated. In Australia, carbon trading is considered unable to achieve its goal of reducing greenhouse gas emissions.<sup>45</sup> What's more, there is an assumption that carbon trading in Australia actually creates injustice for some parties because of the unequal distribution of the emission reduction burden.<sup>46</sup> In the European Union, this is predicted as a role model for carbon trading is also not free from several obstacles. This challenge occurs because the determination of the maximum emission threshold limit uses a “forecast”<sup>47</sup> or estimates and is not integrated with existing data, so this causes supply and demand volumes that are not in accordance with what was expected or previously planned.<sup>48</sup>

In addition, the capacity of policy makers needs to be considered. There needs to be strong governance and optimal performance in the implementation of carbon trading. In the European Union, the role of The European Council is very

---

<sup>44</sup> Lohmann, L., *Loc. Cit.*

<sup>45</sup> Pearse, R. (2014). “Carbon Trading for Climate Justice?”. *Asia Pasific Journal of Environmental Law*, 17, 111-130.

<sup>46</sup> *Ibid.*

<sup>47</sup> A kind of method used to measure weather forecasts in general.

<sup>48</sup> W, Seb (ed). *Carbon Trading – The View From the Floor*, (London: Penerbit Globe Business Publishing Ltd), pp. 89-90.

significant in the law-making process related to carbon trading.<sup>49</sup> The European Council has strong political participation to determine emission reduction targets and arrangements related to interactions that occur in the carbon market.<sup>50</sup> Also bearing in mind that the European Union is an international organization that is supranational in which its member countries voluntarily bind themselves to the laws established by the organization. In contrast to Indonesia, the Government is a subject that must have high initiative and participation in the implementation of carbon markets. Furthermore, carbon trading is vulnerable to criminal acts of corruption, especially when the lucrative investment value is accompanied by loose regulations and a lack of oversight and transparency.<sup>51</sup> One form of corruption that can occur from carbon trading practices is manipulating data on emissions so that a corporation can avoid overspending on excessive emissions and bribery between law enforcement officials and related corporations.<sup>52</sup>

Based on the description above, it can be concluded that the challenges of implementing carbon trading can be seen from various perspectives. Some of these views do not come from just one party, but also from the general public, corporations, government officials, to the carbon trading mechanism itself. In view of the relatively complex issue of carbon trading, policy formulation needs to be followed up seriously so that carbon trading policies can be implemented in accordance with their

---

<sup>49</sup> Pretince, J. (2018). "The Revision of the European Union's Emissions Trading System Ahead of Fourth Trading Period, 2021-2030". *Climate Law*. pp 338-348.

<sup>50</sup> *Ibid.*

<sup>51</sup> Interpol. *Guide to Carbon Trading Crime*. (Lyon: Interpol, 2013), pp. 11.

<sup>52</sup> *Ibid.*

objectives and do not bring much harm to the parties involved. Even though they have ratified international instruments and have started this initiative through Presidential Decree 98/2021, carbon trading policies must still be evaluated regarding their readiness for implementation. Many things must be considered before actually adopting this policy and efforts are needed to adjust the policy context according to Indonesia's political, social and economic conditions.

## V. Good Environmental Governance Mainstreaming on Carbon Trading Implementation Preparation

The government has an important role in efforts to implement carbon trading in Indonesia. The government also has an interest in fulfilling the NDC target as an implication of ratifying the Paris Agreement.<sup>53</sup> Therefore, the government is the key holder of implementing carbon trading by providing a regulatory framework to support implementation at the national level. The formation of this regulation then becomes a challenge for the Government. The government must be able to use its capacity to develop a mechanism that is right on target in accordance with the objectives of holding carbon trading in Indonesia.<sup>54</sup> In this case, the government can uphold the GEG principle in the implementation of carbon trading. Armed with the GEG

---

<sup>53</sup> Lavanya Rajamani dan Jacob Werksman. *The Legal Character And Operational Relevance of The Paris Agreement Temperature Goal*, (Philosophical Transaction, 2018), pp. 5.

<sup>54</sup> Bimo Dwi Nur Romadhon, et. al. *Op.Cit.*, pp. 375.

principles, it is hoped that the Government will be able to lead the implementation of carbon trading in accordance with its designation.<sup>55</sup>

Referring to the mandate of Law 32/2009 that one of the principles of environmental protection and management is good governance.<sup>56</sup> This principle is essential because good government governance influences environmental management and good environmental management is a form of good government governance.<sup>57</sup> Basically this principle has been widely adopted in several laws and regulations, including laws and regulations that regulate the environment.<sup>58</sup> However, in practice it is often not in accordance with what is expected because there are still many problems related to the environment in Indonesia. Therefore, the author sees an urgency to evaluate the principles of good governance and their application in environmental management, especially in relation to the preparation for implementing carbon trading in Indonesia.

The author proposes that the government adopts GEG principles as a regime of good governance in environmental management. In contrast to the principles of good governance

---

<sup>55</sup> *Ibid.*, pp. 365.

<sup>56</sup> Article 2 Law Number 32 of 2009 concerning the Environmental Protection and Management (State Gazette of the Republic of Indonesia of 2009 Number 140, Supplement to the State Gazette of the Republic of Indonesia Number 5059).

<sup>57</sup> Purniawati, et. al. *Op.Cit.*, pp. 44-56.

<sup>58</sup> Article 2 Law Number 32 of 2009 concerning the Environmental Protection and Management (State Gazette of the Republic of Indonesia of 2009 Number 140, Supplement to the State Gazette of the Republic of Indonesia Number 5059) and Article 5 Law Number 30 of 2014 concerning Government Administration (State Gazette of the Republic of Indonesia of 2014 Number 292, Supplement to the State Gazette of the Republic of Indonesia Number 5601).

which basically can be applied in all areas of government administration. The GEG principles have essential pillars that are specifically aimed at protecting and preserving environmental functions and realizing sustainable development.<sup>59</sup> Furthermore, the GEG principles are considered relevant to be applied in developing countries such as Indonesia in order to build democratic governance and avoid corrupt practices.<sup>60</sup> However, the GEG principle is not enough just to be adopted in a law. The GEG principle needs to be guarded against its enforcement at the practical level so that its optimal sustainability can be ensured later. Therefore, there needs to be a mainstreaming effort by overseeing its implementation so that it can be implemented in an implementable process and there is an evaluation related to its implementation. Mainstreaming is an effort to integrate a policy in order to respond to a problem.<sup>61</sup> As with the Climate Change Mainstreaming efforts which are now being intensively emphasized in several countries, countries in the world have an incentive to formulate a policy that takes into account the climate crisis.

The author in this case proposes Good Environmental Governance (GEG) Mainstreaming as an idea to support the readiness of the Indonesian Government in implementing carbon trading. The aim of this solution is to strengthen the capacity of

---

<sup>59</sup> Nopyandri, "Penerapan Prinsip Good Environmental Governance dalam Perda Kabupaten Sleman Provinsi Daerah Istimewa Yogyakarta", *Jurnal Ilmu Hukum*, 2011, pp. 34.

<sup>60</sup> Parvez Hassan. 2001. "Elements of Good Environmental Governance", *Asia Pacific Journal of Environmental Law* 6 (1), pp. 1-12.

<sup>61</sup> Trude Rauke, Per Kristen Mydske, dan Marte Winsvold. (2015). "Mainstreaming Climate Change Adaptation at Local Level", *Local Environment* 20(4), pp. 408-423.

the Government of Indonesia as a cornerstone for implementing carbon trading in Indonesia. GEG Mainstreaming is expected to become a medium that can create a "nurture" factor to build Government capacity and encourage awareness of good environmental governance. The following are the author's ideas regarding GEG Mainstreaming to encourage the Government's readiness to implement carbon trading in Indonesia:

- 1) **Participation:** The essence of upholding this pillar is to involve all components of society in making a public policy. Not all parties agree on the implementation of carbon trading in Indonesia. Several parties felt that they were not included in this implementation and led to the rejection of this agenda. Government it is necessary to come down and hear all the aspirations of various parties. From corporations, NGOs, communities that will be affected later, academics, to the wider community. The government needs to consider all opinions from various parties to be able to map conditions and legalize carbon trading policies according to the context and designation in Indonesia. Concretely, the Government is holding hearings in stages to discuss with several stakeholders and be able to identify the interests of each party.
- 2) **Accountable:** This principle relates to the decision-making process of a policy. The government is expected to be able to form a policy whose implementation can be accounted for. Policy making must be based on appropriate procedures, for example by using Regulatory Impact Analysis (RIA). With such a procedure, it is hoped that the process of making a regulation can be carried out properly through various considerations such as the objectives and the direction of

regulatory outreach, cost-benefit analysis, identification of stakeholders involved in a policy, implications of positive and negative impacts, and so on that are considered relevant to considered in public policy making.

- 3) **Transparent:** This principle emphasizes easy access to information related to the sustainability of carbon trading in Indonesia. In this context, the government needs to submit reports on carbon trading in accordance with what is happening on the ground. This report must then be easily accessible to the wider community. In addition to submitting reports, the government must also be open and ready to answer all questions that arise in the community. The government in this case must be easy to contact, such as being able to provide a hotline related to the implementation of carbon trading and be responsive to provide understanding to the community.
- 4) **Rule of Law:** This principle emphasizes law enforcement in the field. Existing laws must be enforced properly and indiscriminately to anyone who violates them. Then, it is important to strengthen the capacity of Law Enforcement so that law enforcement can run optimally. This capacity can be increased by providing training to APH related to carbon trading and preparing procedural law that is appropriate for criminal acts and violations in the scope of carbon trading.
- 5) **Effective and Efficient:** This principle emphasizes the bureaucratic processes that exist within the scope of government. Often a long and unfinished bureaucracy becomes a source of problems. In this context, there is a need for bureaucratic reform in the implementation of carbon trading. It is possible to have one-stop integrated services to



shorten the bureaucracy and it is hoped that carbon trading can run according to its designation without burdening the parties involved.

This idea is basically the authors' opinion to support the running of carbon trading that is right on target in Indonesia. Even though there is currently Presidential Decree 98/2021 which regulates carbon trading in Indonesia, this cannot be a reason to immediately carry out carbon trading without a proper strategy and preparation. In this case it is important for the Government to build public trust by increasing its capacity amidst the widespread environmental polemic in society. Thus, the author is of the opinion that strengthening the government's capacity as a preparatory step for the implementation of carbon trading through GEG Mainstreaming, the government can build public trust so that carbon trading can be carried out properly in Indonesia.

## **VI. Conclusion**

To conclude, there are three main reasons why Indonesia has great potential, namely economic, environmental and legal factors. To pursue the NDC target of reducing GHG emissions by 29%-41% one of which can be done by conducting carbon trading, which is one of Indonesia's commitments after ratifying the Paris Agreement. The challenges of implementing carbon trading in Indonesia can be seen from various perspectives. Starting from the interests of marginalized communities to the wider community, corporations that need to adapt, the capacity of stakeholders, the potential for criminal acts of carbon trading, to the success of carbon trading in achieving its goals from the very beginning of its

implementation. Lastly, GEG Mainstreaming with its five pillars: participation, accountability, transparency, rule of law, as well as effective and efficient aims to strengthen government capacity before carbon trading is actually implemented. It is hoped that GEG Mainstreaming will be able to generate public trust in the Government so that the Government can optimize its performance when implementing carbon trading.

As for the suggestion, if carbon trading is really going to be implemented in Indonesia, the government should immediately prepare well. This is because the government's role in carbon trading in Indonesia is very important. Therefore it needs to be supported with strong political will. Thus, carbon trading can be carried out optimally and bring benefits to all Indonesian people.

## VII. References

- AMAN. (2022). *Catatan Akhir Tahun 2021: Tangguh di Tengah Krisis*. Jakarta Selatan: AMAN.
- Amandra Megarani. (2022). "Pajak Karbon Batal, Perdagangan Karbon Juga Ditunda?", <https://www.forestdigest.com/detail/1629/perdagangan-karbon-pltu>, accessed on 28 September 2022.
- Anggraeni, Dian Yuni. (2015). Pengungkapan Emisi Gas Rumah Kaca, Kinerja Lingkungan, dan Nilai Perusahaan. *Jurnal Akuntansi dan Keuangan Indonesia*, 12(2), 188-209.
- Bilqis, Amira dan Arie Afriansyah. (2020). Paris Agreement: Respon Terhadap Pendekatan Prinsip Common But Differentiated Responsibilities and Respective Capabilities dalam Kyoto Protocol'. *Jurnal Penelitian Hukum De Jure*, 20(1), 391-408.

- Btari Nadin.(2021). “Apa itu Karbon?”, <https://www.icdx.co.id/news-detail/publication/apa-itu-karbon.>, accessed on 28 September 2022.
- Böhm, S., Misoczky, M. C., & Moog, S. (2012). Greening Capitalism? A Marxist Critique of Carbon Markets. *Organization Studies*, 33(11), 1617–1638.
- Cindy Mutia Annur. (2022). “Potensi Ekonomi Karbon Indonesia Capai Rp8.000 Triliun, Ini Rinciannya”, <https://databoks.katadata.co.id/datapublish/2022/07/28/potensi-ekonomi-karbon-indonesia-capai-rp8000-triliun-ini-rinciannya>, accessed on 2 October 2022
- Direktorat Jenderal Pengendalian Perubahan Iklim. “Konvensi Perubahan Iklim”, <http://ditjenppi.menlhk.go.id/kcpi/index.php/tentang/amanat-perubahan-iklim/konvensi>, accessed on 2 October 2022
- Direktorat Jenderal Pengendalian dan Perubahan Iklim. “Perdagangan Karbon: Apa Implikasinya terhadap Pemenuhan Komitmen Indonesia Pasca 2020?”, <http://ditjenppi.menlhk.go.id/berita-ppi/2682-press-release-perdagangan-karbon.html>, accessed on 3 October 2022,
- Galuh Alkalis. (2021). “Tekan Emisi GRK, Pemerintah Terbitkan Perpres 98/2021 Tentang Ini, Ruang Energi”, <https://www.ruangenergi.com/tekan-emisi-grk-pemerintah-terbitkan-perpres-98-2021-tentang-ini/>, accessed on 3 October 2022.
- Global Green Growth Institute. (2015). *Mewujudkan Pertumbuhan Ekonomi Hijau untuk Indonesia yang Sejahtera Sebuah Peta Jalan untuk Kebijakan, Perencanaan dan Investasi*. Jakarta: Sintesis.
- Gora Kunjana. (2021). “Ini Tantangan dan Peluang Perdagangan Karbon di Indonesia”, <https://investor.id/market-and-corporate/273230/ini-tantangan-dan-peluang-perdagangan-karbon-di-indonesia>, accessed on 3 October 2022.

- Greenpeace Indonesia. “Perdagangan Karbon adalah Solusi Palsu Mengatasi Krisis Iklim”, <https://www.greenpeace.org/indonesia/siaran-pers/45509/perdagangan-karbon-adalah-solusi-palsu-mengatasi-krisis-iklim/>, accessed on 23 September 2022.
- Hamdi, Asep Saepul. (2014). *Metode Penelitian Kuantitatif Aplikasi dalam Pendidikan*. Yogyakarta: Deepublish.
- Hassan, Parvez. (2001). Elements of Good Environmental Governance. *Asia Pacific Journal of Environmental Law*, 6(1), 1-12.
- IESR.or.id. (2021). “Target Penurunan Emisi di Updated NDC Indonesia Tidak Refleksikan Urgensi Hindari Krisis Iklim”, <https://iesr.or.id/target-penurunan-emisi-di-updated-ndc-indonesia-tidak-refleksikan-urgensi-hindari-krisis-iklim>, accessed on 25 September 2022,
- Ikhshan Emerald Alamsyah. (2022). “Untung Rugi Perdagangan Karbon bagi Perusahaan di Indonesia”, <https://sindikasi.republika.co.id/berita/rh7dic318/untung-rugi-perdagangan-karbon-bagi-perusahaan-di-indonesia>, accessed on 3 October 2022.
- Interpol. (2013). *Guide to Carbon Trading Crime*. Lyon: Interpol.
- Irama, Ade Bebi. (2020). Perdagangan Karbon di Indonesia: Kajian Kelembagaan dan Keuangan Negara. *INFO ARTHA*, 4(1), 83-102.
- Kementerian Lingkungan Hidup dan Kehutanan, Direktorat Jenderal Pengendalian Perubahan Iklim, dan Direktorat Inventarisasi GRK dan MPV. (2021). *Laporan Inventarisasi Gas Rumah Kaca (GRK) dan Monitoring, Pelaporan, Verifikasi (MPV) 2020*. Jakarta: KLHK.
- Lin, Yu, (2018). Achieving Good Environmental Governance Through Environmental Public Interest Litigation. *Romanian Journal of Comparative Law*, 2, 359-398.

- Lohmann, L. (2008). Carbon Trading, Climate Justice, and the Production of Ignorance: Ten Examples. *Development* (51), 359-365.
- Lusia Arumningtyas dan Indra Nugraha. (2021). "COP26: Organisasi Masyarakat Sipil Khawatir Perdagangan Karbon Hanya Solusi Palsu bagi Iklim", <https://www.mongabay.co.id/2021/11/04/cop26-organisasi-masyarakat-sipil-khawatir-perdagangan-karbon-hanya-solusi-palsu-bagi-iklim/>, accessed on 23 September 2022.
- Martosoewignjo, Sri Soemantri. (1987). *Persepsi terhadap Prosedur dan Sistem Perubahan Konstitusi dalam Batang Tubuh Undang-Undang Dasar 1945*. Bandung: Alumni.
- Nasution, S.. (1982). *Metode Research (Penelitian Ilmiah)*. Bandung: Jemmars.
- News.detik.com. (2009). "Perdagangan Karbon, Menjual Kelestarian Hutan", <https://news.detik.com/kolom/d-1182448/perdagangan-karbon-menjual-kelestarian-hutan>, accessed on 3 October 2022.
- Nopyandri. (2011). Penerapan Prinsip *Good Environmental Governance* dalam Perda Kabupaten Sleman Provinsi Daerah Istimewa Yogyakarta. *Jurnal Ilmu Hukum*, 31-48.
- OJK.go.id. (2022). "Perdagangan Karbon, Instrumen Baru Pembangunan", <https://www.ojk.go.id/keuanganberkelanjutan/id/newsmedia/detailnews/2937/perdagangan-karbon-instrumen-baru-pembangunan>, accessed on 3 October 2022.
- Parid Ridwanuddin. (2021). "Isu Lingkungan Hidup dan Iklim di WTO: Untungkan Negara Maju, Rugikan Negara Berkembang", <https://igj.or.id/isu-lingkungan-hidup-dan-iklim-di-wto-untungkan-negara-maju-rugikan-negara-berkembang/>, accessed on 3 October 2022.
- Partnership for Market Readiness Indonesia. (2018). *#pasarkarbon: Pengantar Pasar Karbon untuk Perubahan Iklim*. Jakarta: PMRI.

- Pearse, R. (2014). Carbon Trading for Climate Justice?. *Asia Pacific Journal of Environmental Law*, 17, 111-130.
- Peramesti, Ni Putu Depi Yulia. (2017). Penerapan Prinsip-Prinsip Good Environmental Governance dalam Pengelolaan Ruang Terbuka Hijau di Kota Administrasi Jakarta Selatan. *Jurnal MP (Manajemen Pemerintahan)*, 4(1), 1-21.
- Pramudianto, Andreas. (2016). Dari Kyoto Protocol 1997 Ke Paris Agreement 2015: Dinamika Diplomasi Perubahan Iklim Global dan Asean Menuju 2020'. *GLOBAL*, 18 (1), 76-94.
- Pretince, J. (2018). The Revision of the European Union's Emissions Trading System Ahead of Fourth Trading Period, 2021-2030. *Climate Law*, 338- 348.
- Purba, Annisa Aprilia. (2020). Urgensi Pengetatan Baku Mutu Udara Ambien Indonesia (Studi Kasus Gugatan Pemulihan Udara DKI Jakarta). *Padjajaran Law Review*, 8(1), 99-110.
- Purniawati, et. al. (2020). Good Environmental Governance in Indonesia (Perspective of Environmental Protection and Management). *The Indonesian Journal of International Clinical Legal Education*, 2(1), 43-56.
- Putu Sukma Kurniawan. (2020). "Manfaat Perdagangan Karbon bagi Ekonomi dan Lingkungan Indonesia", <https://theconversation.com/manfaat-perdagangan-karbon-bagi-ekonomi-dan-lingkungan-indonesia-144077>, accessed on 24 September 2022.
- Rajamani, Lavanya dan Jacob Werksman. (2018). The Legal Character And Operational Relevance of The Paris Agreement Temperature Goal. *Philosophical Transaction*, 5-25.
- Rauke Trude, et al. (2015). Mainstreaming Climate Change Adaptation at Local Level. *Local Environment*, 20(4), 408-423.
- Republic of Indonesia. (2009). Law Number 32 of 2009 concerning the Environmental Protection and Management

(State Gazette of the Republic of Indonesia of 2009 Number 140, Supplement to the State Gazette of the Republic of Indonesia Number 5059) [Undang-Undang Republik Indonesia Nomor 32 Tahun 2009 tentang Perlindungan dan Pengelolaan Lingkungan Hidup (Lembaran Negara Tahun 2009 Nomor 140, Tambahan Lembaran Negara Nomor 5059)].

Republic of Indonesia. (2014). Law Number 30 of 2014 concerning Government Administration (State Gazette of the Republic of Indonesia of 2014 Number 292, Supplement to the State Gazette of the Republic of Indonesia Number 5601) [Undang-Undang Republik Indonesia Nomor 30 Tahun 2014 tentang Administrasi Pemerintahan (Lembaran Negara Tahun 2014 Nomor 292, Tambahan Lembaran Negara Nomor 5601)].

Republic of Indonesia. (2021). Regulation of The President of The Republic of Indonesia Number 98 of 2021 on The Implementation of Carbon Economic Value To Achieve Nationally Determined Contribution Targets And Control Over Greenhouse Gas Emissions In Relation To National Development (State Gazette of the Republic of Indonesia of 2021 Number 249) [Peraturan Presiden Nomor 98 Tahun 2021 tentang Penyelenggaraan Nilai Ekonomi Karbon untuk Pencapaian Target Kontribusi yang Ditetapkan Secara Nasional dan Pengendalian Emisi Gas Rumah Kaca dalam Pembangunan Nasional (Lembaran Negara Republik Indonesia Tahun 2021 Nomor 249)].

Septiadi, Anak Agung Made Ngurah Panca dan Made Maharta Yasa. (2021). Kekuatan Mengikat *Paris Agreement* kepada Negara-Negara Anggotanya. *Jurnal Kertha Desa*, 9(8), 13-21.

Shen, W. (2015). Chinese Business at the Dawn of its Domestic Emissions Trading Scheme: Incentives and Barriers to Participation in Carbon Trading. *Climate Policy*, 15(3), 339-354.

- Soekanto, Soerjono dan Sri Mamudji. (2001). *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*. Jakarta: Rajawali Pers.
- Sunggono, Bambang. (2007). *Metode Penelitian Hukum*. Jakarta: Raja Grafindo.
- Sukadi, Bimo Dwi Nur Romadhon, et. al. (2022). Penerapan *Good Environmental Governance* pada Praktik Perdagangan Karbon di Proyek Katingan Mentaya. *Jurnal Borneo Administrator*, 16(3), 361-382.
- Sunggono, Bambang. (2010). *Metode Penelitian Hukum*. Jakarta: Rajagrafindo Pers.
- Syahrani dan Muhammad Alfitras Tavares. (2020). Nasib Target Emisi Indonesia: Pelemahan Instrumen Lingkungan Hidup di Era Pemulihan Ekonomi Nasional. *Jurnal Hukum Lingkungan Indonesia*, 7(1), 1-27.
- Tampubolon, Rossi Margareth. (2022). Perdagangan Karbon: Memahami Konsep dan Implementasinya. *STANDAR: Better Standard Better Living*, 1(3), 25- 29.
- Tri Kurnia Yuniarto. (2020). “Punya Hutan Luas, RI Bisa Raup Rp 350 Triliun Dari Perdagangan Karbon”, <https://katadata.co.id/ameidyonasution/berita/5e9a49909b2b2/punya-hutan-luas-ri-bisa-raup-rp-350-triliun-dari-perdagangan-karbon>, accessed on 3 October 2022.
- WALHI. (2021). “Siaran Pers WALHI: Menolak Solusi Palsu, Menuntut Keadilan Iklim”, <https://www.walhi.or.id/menolak-solusi-palsu-menuntut-keadilan-iklim>, accessed on 23 September 2022.
- Waluyo, Bambang. (2002). *Penelitian Hukum dalam Praktek*. Jakarta: Sinar Grafika.
- W, Seb (ed). (2018). *Carbon Trading – The View From the Floor*. London: Globe Business Publishing Ltd.



This page is intentionally left blank

### **Acknowledgment**

None

### **Funding Information**

None

### **Conflicting Interest Statement**

There is no conflict of interest in the publication of this article.

### **Publishing Ethical and Originality Statement**

All authors declared that this work is original and has never been published in any form and in any media, nor is it under consideration for publication in any journal, and all sources cited in this work refer to the basic standards of scientific citation.