

# Indonesia's Commitment to The Paris Agreement Based on Law Number 21 of 2014 Regarding Geothermal Heat

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## ABSTRACT

The adverse impact of climate change is a major threat to human life and the environment. Therefore, it is the duty of the State to protect its citizens. Indonesia is one of the countries that signed the Paris Agreement on 22 April 2016, The Paris Agreement is in the United Nations Framework Convention on Climate Change (UNFCCC) on greenhouse gas emission mitigation, adaptation, and finance in Paris in 2015. Indonesia's role in the Paris Agreement convention is committed to reducing greenhouse gas emissions by 29% under any effort or business as usual (BAU) by 2030 and can be increased to 41% with international cooperation. The binding power of the Paris Agreement convention is based on the principles of International Law *Pacta sunt servanda*. The legal basis for *pacta sunt servanda* is regulated in Article 26 of the 1969 Vienna Convention on the Law of Treaties, in Article 26 *pacta sunt servanda* means that every treaty in force is binding on the countries that are members of the treaty and must be implemented in good faith. Indonesia has laws and regulations for the formation or development of geothermal energy or environmentally friendly renewable energy related to the Paris Agreement convention, one of which is Law number 21 of 2014 concerning geothermal energy.

**Keywords:** Paris Agreement, Indonesia, Geothermal

## 1. INTRODUCTION

The Paris Agreement is the United Nations Framework Convention on Climate Change (UNFCCC) on greenhouse gas emission mitigation, adaptation, and finance in Paris in 2015. The Paris Agreement is a milestone in the history of the start of the Paris Agreement. a new paradigm for handling climate change that has received international attention for the last 20 to 30 years, after the Earth Summit in 1992 in Rio de Janeiro, Brazil agreed to the UNFCCC (United Nations Framework Convention on Climate Change - the United Nations Framework Convention on Change Climate) and the Kyoto Protocol to the United Nations Framework Convention on Climate Change in 1997. Indonesian leadership was an important part in producing the Bali Road Map at COP 13 (Conference of the Parties to the United Nations Framework Convention on Climate Change 13th) 2007 and continued to be the basis for COP 20 in Lima, Peru to COP 21 Paris in 2015 which resulted in the Paris Agreement. His orientation is to address the impacts of climate change as a threat to opportunities and benefits for humans on planet earth. It is hoped that this agreement will be effective in 2020. As of March 2017, 194 countries have signed this agreement and 141 of them Indonesia has ratified the Paris Agreement convention into Law number 16 of 2016. Indonesia is one of the countries that signed this agreement on 22 April 2016. President Joko Widodo at COP 21 UNFCCC (United Nations Framework

Convention on Climate Change/COP 21) in Paris stated that the Paris Agreement must reflect balance, justice and in accordance with national priorities and capabilities so that it needs to be binding, long-term, ambitious but not hampering the country's development. growing. For this reason, Indonesia's role in the Paris Agreement convention is committed to reducing greenhouse gas emissions by 29% under any effort or business as usual (BAU) by 2030 and can be increased to 41% with international cooperation.

The binding power of the Paris Agreement convention is based on the principles of International Law *Pacta sunt servanda*. The legal basis for *pacta sunt servanda* is regulated in Article 26 of the 1969 Vienna Convention on the Law of Covenants, in Article 26 *pacta sunt servanda* means that every treaty in force is binding on the countries that are members of the treaty and must be implemented in good faith. Indonesia is a country with the third largest tropical rainforest and the second longest coastline in the world. Indonesia has an important role for climate change and at the same time will feel its impact, therefore Indonesia has a very significant role in achieving what is stipulated in the Paris Agreement convention on greenhouse gas mitigation. Indonesia also has abundant natural resources potential to be used as renewable energy or cleaner energy that is environmentally friendly, one of which is Geothermal Energy. Geothermal resources are claimed to be able to reduce dependence on oil and fossil fuels which have so far dominated Indonesia's energy sources. Based on

data from the Geological Agency of the Ministry of Energy and Mineral Resources, geothermal potential in Indonesia is 23.9 Giga Watt (GW) as of December 2019, the Agency for the Assessment and Application of Technology (BPPT) noted that geothermal potential in Indonesia is among the largest in the world with potential source of 29,544 megawatt equivalent.

Indonesia has laws and regulations for the formation or development of geothermal energy or environmentally friendly renewable energy related to the Paris Agreement convention, one of which is Law number 21 of 2014 concerning geothermal. By using geothermal utilization in accordance with Law number 21 of 2014 especially in Article 3 letter c which reads; "Increasing the use of clean, environmentally friendly energy to reduce greenhouse gas emissions". Indirectly is the use of geothermal energy for the purposes of energy resources that are more friendly to the environment and can reduce greenhouse gas emissions. Thus, the Indonesian government can fulfill the commitments of the Paris Agreement convention through the National Legislation relating to the Paris agreement. In accordance with sustainable development, it also provides alternative policies to the world, especially the Indonesian government, into development strategies to ensure environmental needs as well as the safety, capabilities, welfare, and quality of life of present and future generations by applying environmentally friendly principles. In practice, the use of geothermal energy can be started by building more geothermal power plants (PLTP) which are more environmentally friendly and gradually replace the dominance of fossil fuel energy such as coal which has so far dominated energy in Indonesia. Although the initial investment in PLTP development requires high costs, the operational costs incurred afterwards will be lower because it does not require fuel.

Indonesia's commitment in the Paris Agreement convention is questionable because based on data from the Ministry of Energy and Mineral Resources (Energy and Mineral Resources) the realization of the energy mix for power plants in June 2020, that Indonesia's energy sources have been more dependent on fossil fuels with a percentage of the use of coal 64.3%, natural gas 17.8%, fuel oil 3.8%, water 8%, geothermal 5.8% and others 0.3% to produce electrical energy in Indonesia. Of course, this is contrary to what is expected in the Paris Agreement convention, because the commitments of the Paris Agreement convention on greenhouse gas mitigation are expected to have been implemented and effective in 2020. The substance of environmental law includes a number of legal provisions regarding and relating to efforts prevent and solve environmental problems. If Indonesia's energy sources continue to be dominated by fossil fuels, the author believes that it will be difficult and insufficient for Indonesia to fulfill its commitment in the Paris Agreement to reduce greenhouse gas emissions by 29% under any effort or business as usual (BAU) by 2030. and can be increased to 41% with international cooperation. Moreover, in 2020 the government and the DPR passed the revision of the Minerba Law in order to save the coal mining industry, which is contrary to policies in several other countries

which have begun to reduce the use of coal due to its bad impact on climate change and have begun to switch to using renewable energy.

### ***1.1. Related Agreement***

With the ratification of the Paris Agreement To The UNFCCC (United Nations Framework Convention on Climate Change) by Indonesia, then based on the Pacta sunt Servanda principle, Indonesia has made Indonesia in the perspective of International Law and as part of the international community, Indonesia is legally bound to the Paris Agreement. The Paris Agreement is legally binding and applicable to all countries with the principle of common but differentiated responsibilities and respective capabilities, and assigns responsibilities to developed countries to provide funding, capacity building, and transfer of technology to developing countries. The Paris Agreement mandates an increase in bilateral and multilateral cooperation that is more effective and efficient to implement climate change mitigation and adaptation actions with funding support, technology transfer, capacity building supported by transparency mechanisms and sustainable governance. As a form of follow-up to the Paris Agreement convention, all member countries are obliged to make ambitious efforts to combat climate change as stipulated in the NDC (National Determined Contribution). NDC is a form of commitment that contains the contribution of each member country determined nationally to reduce its greenhouse gases. Indonesia has assigned the first NDC since November 2016 to the UNFCCC Secretariat Agency. Indonesia's NDC includes Indonesia's mitigation efforts to reduce greenhouse gas emissions by 29% with its own efforts and 41% with international cooperation efforts by 2030.

#### ***1.1.1. Rights and Obligations of Member States of the Paris Agreement***

In the Paris Agreement convention, the State of Indonesia has rights and obligations as stated in the Draft Declaration on Rights and Duties of States with commentaries in 1949, using the theory of state responsibility as described in chapter II of this study, the Government Indonesia feels the need to overcome the adverse effects of climate change which is a major threat to human life and the environment, for that it has become an obligation for the State to protect all its citizens. In line with the objectives of the Republic of Indonesia to protect the entire Indonesian nation and the entire homeland of Indonesia and to promote public welfare as stated in the Preamble to the 1945 Constitution of the Republic of Indonesia (UUD NKRI 1945) 4th paragraph and in accordance with sustainable development, the Government feel the need to participate in efforts to control and protect the impacts of climate change by participating in the Paris Agreement convention. With Indonesia having ratified the Paris Agreement convention into Law number 16 of 2016, then Law number 16 of 2016 has become Indonesia's national law. With the ratification of the Paris

Agreement to The UNFCCC (United Nations Framework Convention on Climate Change) by Indonesia, then based on the Pacta sunt Servanda principle, Indonesia has made Indonesia in the perspective of International Law and as part of the international community, Indonesia is legally bound to the Paris Agreement. The binding power of the Paris Agreement convention is based on the principles of International Law Pacta sunt servanda. The legal basis for Pacta sunt servanda is regulated in Article 26 of the 1969 Vienna Convention on the Law of Treaties, in Article 26 pacta sunt servanda means that every treaty in force is binding on the countries that are members of the treaty and must be implemented in good faith. As a form of implication for Indonesia as a member country of the Paris Agreement Convention, Indonesia is bound to the Paris Agreement convention, and has the obligation to obey and respect the Paris Agreement convention. Carry out the obligations contained in the Paris Agreement. In implementing the Paris Agreement, Indonesia had previously gone through an approval process to be bound by the Paris Agreement. According to Article 1 point b of the 1969 Vienna Convention, self-binding or consent to be bound can be carried out by means of ratification, accession, acceptance or acceptance, and approval. In terms of international treaty responsibilities, the State of Indonesia has the responsibility or obligation to implement what has been stipulated in the Paris Agreement convention on greenhouse gas mitigation.

### *1.1.2. State Responsibility*

In Article 1 of the Articles on The Responsibility of states for Internationally Wrongful Act 2001, stating "every internationally wrongful act of a State entails the international responsibility of that State". which regulates the emergence of a State obligation to another State. So, it can be said that the responsibility of the State is an obligation of the State in carrying out properly what must be fulfilled by the State.

#### *1.1.2.1. Sustainable Development*

With the Government of Indonesia having ratified the Paris Agreement convention into Law number 16 of 2016, then this is also in accordance with the Sustainable Development Theory which meets the needs of today's life by taking into account the fulfillment of the needs of future generations. in accordance with what the Government of Indonesia has proclaimed in the Theory of Sustainable Development, namely Low-carbon and climate-resilient development is consistent with the commitment to achieve the targets of sustainable development goals. Several articles in the Paris Agreement convention that contain sustainable development are articles 2, 6, 7, 8 and 10. The conclusion of the article that contains sustainable development can be said that the parties agree to promote, support and contribute to realizing sustainable development. The Paris Agreement convention also pays attention to other fields such as the economy. This confirms that the impacts of climate change

are so broad that the contents of the agreement are made taking into account other areas affected by climate change. In the concept of sustainable development, one of the dimensions is the environment, so it can be said that the Paris Agreement is one of the dimensions of sustainable development. So, it can be concluded that the Paris Agreement convention is one way to achieve sustainable development.

#### *1.1.2.2. Deep Ecology Theory*

The government's obligation to protect the environment is very important in relation to achieving what is set out in the Paris Agreement convention, the concept of deep ecology theory which was introduced for the first time in 1972 by Arne Naess, a philosopher from Norway, is that protecting and saving the environment by humans basically moves from awareness. that humans are part of nature and environmental sustainability is intended for the entire ecological community and must be a concern for the Indonesian government in protecting the environment in relation to the Paris Agreement convention, thus the Indonesian government can apply the Deep Ecology Theory concept as a reference for protecting the environment in Indonesia in order to achieve the goals set out in the Paris Agreement. The concept of Deep Ecology from Arne Naess champions the sustainability of ecological communities. Deep Ecology seeks to change the perspective of anthropocentrism by offering an eco-centric perspective (a theory of environmental ethics that focuses ethics on the entire ecological community). Deep Ecology can be a guide in efforts to deal with climate change in the climate change convention and the formation of laws in Indonesia. Awareness of the ecocentrism perspective in Deep Ecology theory will be a good basis for the implementation of climate change mitigation policies. The environmental management law in Indonesia can be implemented properly if the government and society have awareness of the environmental principles of Deep Ecology. The environmental principles offered by Deep Ecology Theory can be the basis for finding appropriate solutions to various environmental problems, including climate change. The existence of Law number 16 of 2016 which was ratified from the Paris Agreement convention into Indonesian National Law can be an instrument to maintain ecological sustainability with its environmental-oriented regulatory rules as an ecosystem unit to deal with climate change and what is stipulated in the regulation. the Paris Agreement convention.

### *1.2. The Application of the Paris Agreement Convention in Indonesia Based on the Law of the Republic of Indonesia Number 21 of 2014 Concerning Geothermal*

From the research data, the authors found several obstacles that hindered the implementation of the Paris Agreement in Indonesia in relation to the Law of the Republic of

Indonesia Number 21 of 2014 concerning Geothermal to deal with the climate change crisis, namely as follows:

- a. The land use of some of the geothermal prospect areas is in a conservation forest area, some of which are included in the Tropical Rainforest Heritage of Sumatra (TRHS) area as a world natural heritage.
- b. Cost efficiency of developing geothermal power plants (PLTP) projects to increase the competitiveness of geothermal electricity prices. Currently, NRE technology is getting cheaper so that PLTP projects must also be able to remain competitive with other NRE generators. It also aims to provide affordable energy access for the wider community.
- c. Access to funding, especially at the exploration stage, is a stage that requires a large investment value but carries a very high risk. Therefore, the Government initiated the Geothermal Exploration Program by the Government as well as a program to provide special funding for the exploration phase.
- d. The decline in local electricity demand and oversupply conditions as a result of the Covid-19 pandemic.
- e. Social dynamics at several PLTP project locations which resulted in community resistance in geothermal development.

According to Cuncun Hikam Siswanto, S.H., M.H. So far, the realization of geothermal energy development in Indonesia for Geothermal Power Plant (PLTP) installations until 2020 is 2,130 MW or 8.9% of the total available resources based on data from the Geological Agency of 23,765.5 MW. Of course, the target that has been achieved is still very small from the potential of geothermal resources available in Indonesia, if only this can be maximized for its development, it will greatly assist the Government of Indonesia in fulfilling what is targeted in the Paris Agreement convention, namely to reduce gas emissions. greenhouse gases by 29% under any effort or business as usual (BAU) by 2030 and can be increased to 41% with international cooperation. Of course, the government must overcome these obstacles by looking for the best way so that the PLTP development process can run optimally, according to the Head of the Sub-Directorate for Preparation of Geothermal Programs, Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) of the Ministry of Energy and Mineral Resources, Havidh Nazif, geothermal resources can be utilized as natural resources. local and geothermal development efforts are also in order to reduce greenhouse gas emissions. Indonesia will contribute to reducing greenhouse gas emissions globally.

## **2. PROBLEM**

### **2.1. Obstacles and Discussion**

In addition to the obstacles faced by the Directorate General of New, Renewable Energy and Energy Conservation (EBTKE) in building PLTP in Indonesia, according to Dedy

Mahardika of the non-governmental organization WRI Indonesia, the government should set a more ambitious target in implementing the Paris Agreement convention in Indonesia because many countries have countries in the world have missed the target even though they have set ambitious targets in greenhouse gas mitigation, because with the targets set on the points contained in Law number 16 of 2016 concerning the ratification of the Paris Agreement, there are still many points that need to be improved so that it can be implemented. maximally in order to fulfill Indonesia's commitments in the Paris Agreement convention, such as following the example of other countries in the world that set a target of net zero emission in 2050, regardless of the obstacles faced by the Indonesian Government in mitigating greenhouse gases, NGO institutions (Non-Governmental Organizations). Governmental Organizations) such as WRI Indonesia and others in Indonesia are ready to assist the Indonesian government by conducting studies and studies deemed appropriate in terms of greenhouse gas mitigation as stipulated in the Paris Agreement to achieve more ambitious targets.

According to Dedy Mahardika, the Indonesian government must implement a more sustainable development in terms of the environment, because in Indonesia today there are more and more developments in an unsustainable economy and it has a bad impact on the environment in Indonesia and it will be very difficult to achieve what is stipulated in the law. the Paris Agreement convention, one of the points of which is Sustainable Development or SDGs (Sustainable Development Goals) and in accordance with the theory of sustainable development that pays attention to the environment and development that meets the needs of today's life by taking into account the fulfillment of the needs of future generations. In accordance with the theory of state responsibility, the Indonesian government is obliged to protect the entire Indonesian nation and the entire homeland of Indonesia and to promote public welfare as stated in the Preamble to the 1945 Constitution of the Republic of Indonesia (UUD NKRI 1945) 4th paragraph and the 1945 Constitution of the Republic of Indonesia. The 1945 Constitution Article 28 H paragraph (1) states that everyone has the right to live in physical and spiritual prosperity, to have a place to live and to have a good and healthy living environment and have the right to obtain health services.

One way that the Government of Indonesia must take to mitigate greenhouse gases is to start switching to clean renewable energy from now on, if it doesn't start right now it will be very difficult for Indonesia to achieve a 29% reduction in greenhouse gas emissions by own efforts that are targeted to be achieved by 2030 in accordance with the Paris Agreement convention. According to Dedy Mahardika from the non-governmental organization WRI Indonesia, the application and development of geothermal energy as one of clean renewable energy to fulfill the Paris Agreement commitment is appropriate because it has the second potential in the world after the United States and provides an alternative to the Indonesian government in terms of clean renewable energy. Compared to only

depending on renewable clean energy which is only available at certain times such as wind energy and solar panels, geothermal energy is an energy that can be diversified as a renewable clean energy that can complement each other, so as to create a sustainable energy that can supply energy needs in Indonesia, then geothermal energy is an appropriate alternative. The thing to note is that the Government of Indonesia is still having problems in terms of technology for the development and acceleration of renewable energy because it takes a lot of money to advance the technology for developing clean renewable energy such as geothermal energy.

Resource person Dedy Mahardika also hopes that in the future the Indonesian government can set even more ambitious targets in the points contained in Law number 16 of 2016 concerning the ratification of the Paris Agreement convention into Indonesian national law. It is also hoped that in the future the Government of Indonesia will set more ambitious targets in following other climate change conventions in order to be able to deal with and overcome the problem of climate change in Indonesia which is increasingly worrying, as well as being able to set an example to the international world in dealing with climate change.

### 3. CONCLUSION

The application of the Paris Agreement Convention in Indonesia based on the Law of the Republic of Indonesia Number 21 of 2014 concerning Geothermal is in accordance with the objectives set by the Government of Indonesia in the role of Indonesia in the international world as a member state of the United Nations and related to the Paris Agreement convention, it is committed to reduce greenhouse gas emissions by 29% under any effort or business as usual (BAU) by 2030 and can be increased to 41% with international cooperation. Although there are still many obstacles in the implementation of the Paris Agreement Convention, the Government of Indonesia is still trying to maximize the goals to be achieved in the Paris Agreement convention and already has laws and regulations on renewable energy, one of which is the Law of the Republic of Indonesia Number 21 of 2014 concerning Geothermal which considered by scientists in the world as one of the clean renewable energy that is environmentally friendly and can reduce greenhouse gas emissions.

### REFERENCES

[1] Rahmadi, Takdir. *Hukum Lingkungan di Indonesia Edisi Kedua*. Jakarta: PT. Rajagrafindo Persada, 2015.

[2] Amiruddin dan Zainal Asikin. *Pengantar Metode Penelitian Hukum* Jakarta: PT. Rajagrafindo Persada, 2012.

[3] Sukmadinata. *Metode Penelitian Kualitatif*. Bandung: Graha Aksara, 2006.

[4] Soerjono Soekanto dan Sri Mahmudji. *Penelitian Hukum Normatif: Suatu Tinjauan Singkat*. Jakarta: PT. Rajagrafindo Persada, 2003.

[5] Bambang Sunggono. *Metodologi Penelitian Hukum* Jakarta: PT. Rajagrafindo Persada, 2003.

[6] Indonesia. Undang-Undang Dasar Negara Republik Indonesia Tahun 1945.

[7] Indonesia. Undang-Undang Nomor 16 Tahun 2016 tentang Pengesahan *Paris Agreement to the United Nations Framework convention on Climate Change* (Persetujuan Paris atas Konvensi Kerangka Kerja Perserikatan Bangsa-bangsa Mengenai Perubahan Iklim).

[8] Indonesia. Undang-Undang Nomor 21 Tahun 2014 Tentang Panas Bumi.

[9] Indonesia. Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup.

[10] Elda, Sofia. "Implikasi Hukum Paris Agreement Melalui Program REDD+ Berbasis Blue Carbon di Indonesia". *Jurnal Magister Hukum Udayana*. Volume 8, Nomor 2 (Juli 2018): 174-187. Accessed on 10 January 2021. DOI: 10.24843/JMHU.2019.v08.i02.p03

[11] Anonym. "Pengertian gas rumah kaca, fungsi dan dampak negatif yang bisa ditimbulkannya,". <https://www.rumah.com/panduan-properti/pengertian-gas-rumah-kaca-fungsi-dan-dampak-negatif-yang-bisa-ditimbulkannya-27493>. Accessed on 15 February 2021.

[12] Siti Nurbaya. "Keterangan Menteri Lingkungan Hidup dan Kehutanan Pengantar Pembahasan Atas Rancangan Undang-undang tentang Pengesahan Paris Agreement To The United Nations Framework Convention On Climate Change (Persetujuan Paris atas Konvensi Kerangka Kerja Perserikatan Bangsa bangsa Mengenai Perubahan Iklim)". <https://www.dpr.go.id/dokakd/dokumen/K7-26-95de9302de9c819023b357f43d0422a7.pdf>. Accessed on 12 April 2021.

[13] Virna, P Setyorini. "Ratifikasi persetujuan Paris kado dua tahun Jokowi-JK". <https://www.antaranews.com/berita/591214/ratifikasi-persetujuan-paris-kado-dua-tahun-jokowi-jk>. Accessed on 15 February 2021.

[14] United Nation Climate Change. “United Nation Climate Change Indonesia INDC”.

[https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/First%20NDC,%20Indonesia\\_submitted%20to%20UNFCCC%20Set\\_November%20%202016.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Indonesia%20First/First%20NDC,%20Indonesia_submitted%20to%20UNFCCC%20Set_November%20%202016.pdf). Accessed on 01 March 2021.

[15] Agus Susanto. “Inspirasi Energi: Panas bumi Daftar negara dengan PLTP Terbesar, Indonesia peringkat 2”.

<https://www.kompas.com/global/read/2020/11/30/130000570/inspirasi-energi-panas-bumi-3-daftar-negara-dengan-pltp-terbesar?page=all>. Accessed on 15 March 2021.

[16] Kementerian ESDM. “Bagaimana Realisasi bauran energi pembangkit listrik semester I 2020”.

<https://databoks.katadata.co.id/datapublish/2020/09/24/bagaimana-realisisi-bauran-energi-pembangkit-listrik-semester-i-2020>. Accessed on 20 March 2021.

[17] Ita. “Pertama kali Penggunaan Energi terbarukan di Eropa Salip Energi Fosil”.

<https://news.detik.com/dw/d-5347654/pertama-kali-penggunaan-energi-terbarukan-di-eropa-salip-energi-fosil>. Accessed on 20 March 2021.

[18] United Nations. “Draft Declaration on Rights and Duties of States with commentaries 1949”.

[https://legal.un.org/ilc/texts/instruments/english/commentaries/2\\_1\\_1949.pdf](https://legal.un.org/ilc/texts/instruments/english/commentaries/2_1_1949.pdf). Accessed on 15 June 2021.

[19] Anisatul Umah. “Sumber Daya Melimpah, Kapasitas Pembangkit Panas Bumi minim”.

<https://www.cnbcindonesia.com/news/20210226122611-4-226371/sumber-daya-melimpah-kapasitas-pembangkit-panas-bumi-minim>. Accessed on 16 June 2021.