

The Impact of the Paris Agreement on the Right to Clean Air in Indonesia

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Abstract

Pemanasan global bukan hanya merupakan isu lingkungan, tetapi juga isu hak asasi manusia, khususnya yang berkaitan dengan hak atas udara bersih. Artikel ini mengkaji secara kritis penerapan Paris Agreement dalam konteks Indonesia serta implikasinya terhadap kualitas udara dan kesehatan masyarakat. Penelitian ini menggunakan metode penelitian hukum normatif dengan menganalisis kebijakan, peraturan perundang-undangan, dan Nationally Determined Contributions (NDCs) Indonesia dalam perspektif komitmen internasional di bidang perubahan iklim. Hasil penelitian menunjukkan bahwa meskipun telah terdapat kemajuan dalam kerangka regulasi, perlindungan hak atas udara bersih masih menghadapi berbagai tantangan, seperti ketergantungan pada batu bara, lemahnya penegakan hukum, serta kebakaran hutan dan lahan. Oleh karena itu, penelitian ini merekomendasikan percepatan transisi menuju energi terbarukan, penguatan mekanisme penegakan regulasi, serta integrasi pendekatan hak asasi manusia dalam kebijakan perubahan iklim.

Keywords: Paris Agreement, Indonesia, hak asasi manusia, hak atas udara bersih, kebijakan perubahan iklim, pencemaran udara.

Abstract

Global warming is not only an environmental issue but also a human rights issue, especially in relation to the right to clean air. The paper critically examines the application of the Paris Agreement to the Indonesian scenario and the implications of the agreement on air quality and the health of people. The current analysis presents a normative approach to legal research, where the policies, regulations, and Nationally Determined Contributions (NDCs) of countries are reviewed through the prism of international climate commitments. The empirical findings state that despite the positive changes in regulatory frameworks, there are still obstacles to the successful protection of clean air, such as coal dependence, inadequate enforcement systems, forest fires, etc. Policy recommendations emphasize the need for a shift towards renewable energy, the implementation of stricter regulatory processes, and the incorporation of human rights considerations.

Keywords: Paris Agreement, Indonesia, human rights, right to clean air, climate policy, air pollution

Introduction

Global warming is not only an environmental issue, but it is also a serious human rights issue. The issues of air pollution, deforestation, and the increase in the average temperature continue to come up in our classroom debates, and we are all watching a crisis and the possible end of life and health of millions of people all over the world. To address these issues, we have witnessed the international community signing the Paris Agreement way back in 2015, with individual nations committing themselves to do their bit towards the reduction of greenhouse gases as well as the deceleration of global warming.

With that objective in mind, Indonesia, a developing country in Southeast Asia, has taken similar action. As a result, the Indonesian government saw Presidential Regulation No. 98 implemented in 2021 with the target of a 43.20% reduction of emissions by 2030 and a stronger presence on the international level.¹²

¹Government of the Republic of Indonesia, "Presidential Regulation of the Republic of Indonesia Number 98 of 2021 on the Implementation of Carbon Economic Value for the Achievement of Nationally Determined Contribution Targets and Control of Greenhouse Gas Emissions in National Development," Government of Indonesia, 2021: <https://jdih.maritim.go.id/cfind/source/files/perpres/2021/perpres-nomor-98-tahun-2021-english-version.pdf>.

This fact shows that environmental protection is not only an environmental issue, but also involves human rights considerations. Apparently, the reduction of climate change is another way of supporting basic human rights. However, the achievement of greenhouse-gas emission goals is not the only part of the Indonesian commitments within the framework of the Paris Agreement; human rights protection is one at the same part of this agreement. The right to clean air is one of the fundamental human rights that is affected by environmental degradation.³ The levels of air pollution in many urban and industrial areas in Indonesia have been extremely high, primarily due to the burning of fossil fuels, forest fires, and industrial emissions.⁴ The World Health Organization (WHO) estimates that over half a million early deaths happen annually in Southeast Asia as a result of air pollution. These facts underline the deep interconnection between environmental policy and the protection of human rights.⁵

The Paris Agreement opens an opportunity in the development of climate action by Indonesia and strengthens the right to a clean and healthy environment. Nevertheless, there are still questions about the success of the policies implemented to reduce the impacts of climate in Indonesia and whether such approaches have led to any measurable improvements in the quality of the air and the overall health measures.⁶ How well has Indonesian observance of the Paris Agreement enhanced the right to clean air, and are lack of solutions to gaps in steps taken to continue frustrate significant improvements?⁷

This paper examines how the Paris Agreement has been applied in Indonesia and how it has had an impact on the right to clean air. It aims to review the way the environmental and climate policies of Indonesia have conformed with their human rights duty, and it tries to assess whether such efforts have led to any material improvements in the protection of the right to have clean air.⁸ In this endeavor, the study aims to highlight the interconnection between global climate obligations and national human-rights safeguards, therefore emphasizing the need to coordinate these approaches in order to promote sustainable economic development.⁹

²Tanahair, "Indonesia's Second NDC Submission Awaits President's Approval," February 24, 2025, <https://tanahair.net/indonesias-second-ndc-submission-awaits-presidents-approval/>.

³Yudha, Satya Widya, *Air Pollution in Indonesia* |, NBR Special Report (The National Bureau of Asian Research (NBR), 2019), [optional – if available: <https://nbr.org/publication/air-pollution-in-indonesia/>].

⁴Quina, Margaretha, "Indonesians Wield the Power of the Law to Clean Up Jakarta's Deadly Air," *Earthjustice*, November 21, 2022, <https://earthjustice.org/experts/margaretha-quina/indonesians-wield-the-power-of-the-law-to-clean-up-jakartas-deadly-air>.

⁵World Health Organization (WHO), *World Air Quality Report* (WHO / IQAir, 2020), <https://www.iqair.com/world-air-quality-report>.

⁶Government of Indonesia, *Enhanced Nationally Determined Contribution*, UNFCCC Submission (United Nations Framework Convention on Climate Change (UNFCCC), 2022), https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf.

⁷Mongabay, "As Indonesia, US Back Away from Climate Goals, Hopes Fade to Retire Coal Plants Early," *Environmental News, Mongabay Environmental News*, February 20, 2025, <https://news.mongabay.com/2025/02/as-indonesia-us-back-away-from-climate-goals-hopes-fade-to-retire-coal-plants-early/>.

⁸President of the Republic of Indonesia, "Presidential Regulation No. 98 on Carbon Pricing," Republic of Indonesia, n.d., accessed October 10, 2025, [optional: <https://jdih.maritim.go.id/cfind/source/files/perpres/2021/perpres-nomor-98-tahun-2021-english-version.pdf>].

⁹United Nations Framework Convention on Climate Change (UNFCCC), "The Paris Agreement."

Problem Formulation

- 1) How has Indonesia implemented the Paris Agreement through its national policies and regulations related to climate change and environmental protection?
- 2) To what extent has the implementation of the Paris Agreement contributed to the protection and realization of the human right to clean air in Indonesia?

Methodology

This research paper will be based on a normative legal research approach, which aims at examining legal norms and principles related to climate change and environmental rights in Indonesia. The study mainly uses the statutory and conceptual methods, with the investigation of international standards such as the Paris Agreement, national legislation, and policies such as the Nationally Determined Contributions (NDCs) in Indonesia. Relevant literature, reports, and policy documents are analyzed to determine the level at which the legal framework of Indonesia is in accordance with its human rights obligation in maintaining the right to clean air.

Discussion and Result

The adoption of the Paris Agreement in Indonesia is a big stride in the attempt to incorporate climate change control and human rights, especially the right to clean air. These efforts have, however, had mixed results. Though Indonesia has shown improvement in establishing regulatory conditions and revising its national pledges, there is little change in the form of physical alteration of the air quality and human well-being.

Indonesia's commitments under the Paris Agreement

Indonesia has officially signed the Paris Agreement under Law No.16 of 2016, which confirms its determination towards the climate agenda across the world.¹⁰ Indonesia had agreed under the Enhanced Nationally Determined Contribution introduced in 2022 to limit its greenhouse gas emissions by 31.89 per cent without international cooperation and by 43.20 per cent with international cooperation by 2030.¹¹

Despite the positive intentions of the policy framework in Indonesia, the country's real action is lower than the standards that have been projected. According to the Institute of Essential Services Reform (IESR), the current emission-cutting efforts in Indonesia have yet to match the global goal of limiting the rise of the temperature to 1.5 degrees Celsius.¹² The major factor that has been causing this gap is the fact that Indonesia is highly dependent on coal as a source of electricity. Following the findings of

¹⁰Government of Indonesia, "Law No. 16 of 2016 on the Ratification of the Paris Agreement," State Secretariat, 2016, <https://peraturan.bpk.go.id/Details/37573>.

¹¹President of the Republic of Indonesia, "Presidential Regulation No. 98 on Carbon Pricing."

¹²Budi Haryanto et al., "Associations Between Ambient PM2.5 Levels and Children's Pneumonia and Asthma During the COVID-19 Pandemic in Greater Jakarta (Jabodetabek)," *Annals of Global Health* 91, no. 1 (2025), <https://doi.org/10.5334/aogh.4623>.

Mongabay (2025), Indonesia has slowed down its coal phaseout agenda, which damages its climate goals in the long term.¹³

Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC), as understood in Article 2 of the Paris Agreement¹⁴ inform the implementation of the NDC of Indonesia. The principle recognizes the fact that all countries have the responsibility of fighting climate change, but developing nations such as Indonesia have a right to be flexible according to national situations and their capacities.¹⁵ This is the same way the NDC of Indonesia represents the focus on a balance between the emission reduction goals and the economic development goals and poverty alleviation programs. This balance has, however, posed challenges with regard to the need to be more concerned about the long-term sustainability rather than short-term economic benefits. Critics claim that the CBDR-RC principle advocates fairness, but has also enabled a slower domestic energy transition to clean energy. As such, by incorporating the concept of a human rights-based approach (HRBA) in NDC planning, Indonesia would be more accountable in the sense that the policies aimed at curbing emissions also promote the right to a clean, healthy, and sustainable environment.¹⁶

The gap between policy and practice shows a structural problem with Indonesia's energy and governance systems, even though these commitments demonstrate that the country formally conforms to international climate standards. Coal dependence and unequal emission-reduction policy implementation show that policy ambition alone is not enough to produce measurable results. This difference is important from the view of human rights since, in addition to slowing down efforts to reduce climate change, noncompliance with emission targets also has an indirect effect on citizens' rights to environmental protection and health.¹⁷ Stronger institutional coordination and accountability mechanisms are required to guarantee that Paris Agreement commitments result in actual environmental and social improvements. It also asks questions about Indonesia's capacity to define international climate obligations into successful national action plans.¹⁸

The right to have clean air

The right to clean air is a natural part of human rights, as it has a deep influence on the health outcomes and the quality of life, in general. Article 28H of the Indonesian Constitution mentions a right to live in an environment that is clean and healthy for every

¹³Shannon N Koplitz et al., "Public Health Impacts of the Severe Haze in Equatorial Asia in September–October 2015," *Environmental Research Letters* 11, no. 9 (2016): 094023, <https://doi.org/10.1088/1748-9326/11/9/094023>.

¹⁴United Nations Framework Convention on Climate Change (UNFCCC), "The Paris Agreement."

¹⁵Ministry of Environment and Forestry (Republic of Indonesia), "Enhanced Nationally Determined Contribution (Enhanced NDC) of the Republic of Indonesia (n.d.), accessed November 11, 2025, https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf.

¹⁶Lavanya Rajamani, "AMBITION AND DIFFERENTIATION IN THE 2015 PARIS AGREEMENT: INTERPRETATIVE POSSIBILITIES AND UNDERLYING POLITICS," *International & Comparative Law Quarterly* 65, no. 2 (2016): 493–514, <https://doi.org/10.1017/S0020589316000130>.

¹⁷"Reducing Fossil Fuel Dependence and Exploring Just Energy Transition in Indonesia," *Climate* 12, no. 3 (2024): 37, <https://doi.org/10.3390/cli12030037>.

¹⁸Maxensius Tri Sambodo et al., "Breaking Barriers to Low-Carbon Development in Indonesia," *Environmental Research and Public Health* 8, no. 4 (2022): e09304, <https://doi.org/10.1016/j.heliyon.2022.e09304>.

citizen¹⁹; this right has also been recognized in the international system in the form of the United Nations General Assembly Record No. 76/300 (2022), which recognizes the right to a clean, healthy, and sustainable environment, as well as a human right.²⁰

Nevertheless, Indonesia is facing serious air pollution issues in the context of the environment in Indonesia. The available statistics of the World Health Organization (WHO) claim that the PM 2.5 concentrations in large Indonesian cities, such as Jakarta, Medan, and Surabaya, consistently exceed the safety levels.²¹ The high concentrations of particulate matter are linked to the negative health effects such as asthma, chronic pulmonary disease, and early death. The assessment done by WHO shows that over half a million people in Southeast Asia die every year due to air pollution.²²

One notable example of citizen participation is the case of the Jakarta Citizens, during which citizens sued the national government for its failure to guarantee the quality of the air. In a 2021 court decision, the Central Jakarta District Court found that the government had failed to take reasonable actions in order to secure the right of its citizens to a healthy environment. The decision highlights the fact that the issues of the environment not only have to be approached scientifically and technically but also include the urgent human rights issues.²³

Although Indonesia has a constitutional guarantee of the right to a healthy environment and a clean environment, in practice, enforcement is weak, and there is a wide gap between law enforcement and real improvement in air quality.²⁴ The high levels of PM 2.5 and other pollutants indicate that regulation alone can never guarantee the right to clean air without adequate monitoring, compliance, and multi-level coordination.²⁵ Furthermore, the persistence of industrial pollutants, traffic congestion, and peat fires reveals the structural issues faced by citizens in asserting this right. From the human rights perspective, the situation highlights that climate and environmental policies must be specifically formulated to ensure public health and the right to a healthy environment rather than aim only at emissions reduction or economic growth. These considerations highlight the imperative to mainstream human rights principles into environmental policymaking so that air quality improvements are measurable, enforceable, and equitable to all people in Indonesia.²⁶

Challenges

¹⁹Miriam E. Marlier et al., "Fires, Smoke Exposure, and Public Health: An Integrative Perspective," *GeoHealth* 3, no. 7 (2019): 178–89, <https://doi.org/10.1029/2019GH000191>.

²⁰Jaime Madrigano et al., "Air Pollution and Blood Pressure: Evidence from Indonesia," *GeoHealth* 8, no. 7 (2024): e2024GH001014, <https://doi.org/10.1029/2024GH001014>.

²¹Dinda Ayu Safira et al., "Improving the Forecast Accuracy of PM2.5 Using SETAR-Tree and LSTM for Jakarta Air Quality," *Atmosphere* 16, no. 1 (2025): 23, <https://doi.org/10.3390/atmos16010023>.

²²Quina, Margaretha, "Indonesians Wield the Power of the Law to Clean Up Jakarta's Deadly Air."

²³Quina, Margaretha, "Indonesians Wield the Power of the Law to Clean Up Jakarta's Deadly Air."

²⁴"Climate Justice and Social Equity in Indonesian Watershed Governance: The Case of Citarum River," *Sosiohumaniora* 26, no. 3 (2024): 517–37, <https://doi.org/10.24198/sosiohumaniora.v26i3.63610>.

²⁵Picolotti, R., & Luengo, S., *Integrating Human Rights and Science Perspectives in Climate Responses* (IGSD, 2024), <https://www.igsd.org/publications/integrating-human-rights-and-science-perspectives-in-climate-responses/>.

²⁶Alfian Massagony et al., "Political Economy of Energy Policy in Indonesia towards Net Zero Emissions by 2060," *Energy for Sustainable Development* 88 (October 2025): 101757, <https://doi.org/10.1016/j.esd.2025.101757>.

Although some steps have been taken in regulating and policing the environment, there are still some serious challenges faced by Indonesia in implementing the promises of the Paris Agreement. The country is mostly dependent on fossil fuels, with over 60 percent of its electricity produced by using coal-fired power stations, and thus a significant cause of greenhouse gas emissions and air pollution.²⁷

The environmental sector is also weakly applied, with many industries continuing to limit pollution without any proper sanction. Besides, quite a lot of forest and peatland fires in areas like Sumatra and Kalimantan cause intense fog, causing transboundary pollution and overall health risk to millions of citizens, which limits citizen mobilization and the need for stronger environmental protection.²⁸

The Tanahar report (2025) also indicates that the latest Nationally Determined Contribution in Indonesia is quite focused on carbon markets and adaptation approaches, but still, it is not as focused on human well-being and environmental justice as it needs to be.²⁹

These recurring problems show Indonesia's policy and legal frameworks, although technically in line with the Paris Agreement, are not enough to ensure measurable quality improvement in the air, as well as human rights.^{30,31} Coal dependency, weak enforcement of environmental defense laws, and repeated forest fires continue to undermine national climate goals and the right to clean air.^{32,33} From a human rights perspective, this difference indicates that the climate policy will not be effective unless decoupled from social and environmental justice notions.³⁴ Building institutional capacity, guaranteeing adoption, and prioritizing public health outcomes are, therefore, important steps. Without taking such a step, Indonesia is likely to fail in both its international obligations and its national duty to safeguard citizens' right to a healthy environment, illustrating the central link between climate control and human rights protection.³⁵

Conclusion and recommendation

²⁷Tanahar, R, "Indonesia's Updated NDC and Its Focus on Carbon Markets: Human Rights Implications," *Environmental Policy Review Journal* 7, no. 2 (2025), <https://tanahair.net/indonesias-second-ndc-submission-awaits-presidents-approval/>.

²⁸Government of Indonesia, *Enhanced Nationally Determined Contribution (NDC) Submission* (UNFCCC, 2022), https://unfccc.int/sites/default/files/NDC/2022-09/23.09.2022_Enhanced%20NDC%20Indonesia.pdf.

²⁹Mongabay, "As Indonesia, US Back Away from Climate Goals, Hopes Fade to Retire Coal Plants Early."

³⁰"CLIMATE JUSTICE AND SOCIAL EQUITY IN INDONESIAN WATERSHED GOVERNANCE."

³¹Tomi Setiawan et al., "Perubahan Iklim Dalam Perspektif Regulasi Dan Kebijakan Lingkungan di Indonesia," *Ganaya: Jurnal Ilmu Sosial Dan Humaniora* 8, no. 1 (2025): 135–52, <https://doi.org/10.37329/ganaya.v8i1.3687>.

³²Massagony et al., "Political Economy of Energy Policy in Indonesia towards Net Zero Emissions by 2060."

³³Gefira Minhatul Maula, "Efektivitas Implementasi Kebijakan Pengendalian Pencemaran Udara di Indonesia," *Savana: Indonesian Journal of Natural Resources and Environmental Law* 1, no. 02 (2024): 145–59, <https://doi.org/10.25134/savana.v1i2.223>.

³⁴Yopik Gani and Saut Panggabean Sinaga, "Air Pollution Dynamics: Insights into Current Condition of Policy Framework and Future Strategy," *Journal of Governance* 8, no. 3 (2023), <https://doi.org/10.31506/jog.v8i3.15681>.

³⁵M. R. Karliansyah, "Air Pollution Impacts on Human Health and Policies to Reduce Air Pollution," *Medical Journal of Indonesia* 29, no. 1 (2020): 6–7, <https://doi.org/10.13181/mji.com.204579>.

Indonesia's implementation of the Paris Agreement shows Indonesia's commitment to responding to climate change and protecting human rights, including the right to clean air. While some progress has been made in national and local policy and regulation development and updates to country commitments, as well as advancing public participation, the reality is that increases in air quality and public health are still limited. The reliance on coal, the inability of laws and regulations to be enforced, deforestation and burning of peatlands, and a general lack of interest in human rights perspectives remain, impeding the impacts on climate change in Indonesia. These factors provide evidence of the entangled relationship between international commitments to climate change and the domestic obligations to human rights, thus demonstrating how effective environmental policy will always fall short of its potential when it does not address, or arguably when its agents do not acknowledge, the relevance of socio-economic and institutional contexts.

Recommendation

To increase Indonesia's adherence to the agreement of Paris and to increase the protection of the right to clean air, the following measures can be proposed:

- 1) Switching to cleaner energy sources: The decrease in the demand for coal, combined with the increase in renewable energy, will directly reduce the number of greenhouse gas emissions and air pollution.
- 2) Enhanced enforcement structures: The industrial emissions should be checked by the regulatory bodies, and the penalties imposed should be applied in a similar fashion to make sure that the set standards are followed.
- 3) Incorporating human rights into climate policy: Environmental policies must make express reference to health outcomes, equity factors, and access by all citizens to clean air.
- 4) Strengthening the role of the people: The communities will be enabled to hold governments responsible by ensuring the promotion of citizens' involvement and advancement of legal procedures, including environmental lawsuits.
- 5) Controlling forest and peatland fires: Multilateral measures to include monitoring, prevention, as well as sustainable land management, should be used in order to reduce cross-border air pollution.

With the help of these recommendations, Indonesia will be better able to match its climate policies with the Paris Agreement and human rights obligations, thus providing sustainable development and protecting the health and well-being of its citizens.

Acknowledgement

The author has no acknowledgements to declare.

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