



A Study of Renewable Energy Governance from the Perspective of *Public Trust Doctrine*

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Abstract. Energy governance in Indonesia is currently progressing towards two directions, namely the use and utilization of fossil energy and renewable energy. This is because Indonesia is still in the phase of energy transition, which is currently dominated by fossil energy. For this reason, energy management in Indonesia must be assisted so that it is in accordance with the goals and ideals of Indonesia. One of the doctrines that can be used to oversee or correct government policies and actions in energy governance is the *Public Trust Doctrine* (PTD). Based on the results of the study, PTD can function as a theory and principle of evaluation to examine the constitutionality of government policies and actions in energy governance. The governance of renewable energy policies in Indonesia related to PTD has not yet fully reached the public interest, because there are still many crucial issues that might harm the public interest, such as the accommodation of nuclear energy in the RUU Energi Baru dan Terbarukan (Bill of New and Renewable Energy) and the issue of funding coal energy.

Keywords: public trust doctrine · renewable energy · green economy · environmental law

1 Introduction

The energy sector is an important sector in Indonesia, because not only does it encourage economic growth, but it also serves as important daily necessity [1]. The energy use in Indonesia is still dominated by energy derived from fossils, especially oil and coal. Based on data from the BPS (Central Bureau of Statistics) in 2020, the primary energy production is still dominated by coal (15,527,106 terajoules) from the total primary energy production (20,600,280 terajoules) [2].

The excessive use of the fossil energy sector may make an impact on humans and natural resources such as water, air, and land [3]. More specifically, these impacts can be in the form of: 1) depletion of oil reserves; 2) inflation/instability due to higher demand than supply; 3) pollution of greenhouse gas due to burning fossil fuels; and 4) threat of climate change [4]. Regarding the climate change, the Intergovernmental Panel on Climate Change (IPCC) has given a warning (code red for humans) which was delivered by the UN Secretary General Antonio Guterres after the publication of the latest report

by IPCC scientists on August 9, 2021. Scientists predict that global warming, which is a result of extreme weather disasters around the world, is at risk of being unavoidable in twenty years [5].

The policies on energy sector Indonesia are influenced by the issue of climate change. In relation to climate change mitigation measures, the President has stated Indonesia's commitment to reduce Greenhouse Gases by 26% with domestic funding, and will be increased to 41% with foreign funding from the Business As Usual (BAU) scenario, by 2020 [6]. The government's efforts to specifically address energy issues can be seen in the formation of the National Energy Policy (Government Regulation No. 79 of 2014), which is centered on a strategy to ensure sustainability, security of supply and efficient use of energy, as well as the realization of the optimal energy mix by 2050 [7].

The government's commitment to limit fossil energy is also demonstrated through the establishment of the Bill of New and Renewable Energy. The bill is currently still in the process of being discussed and has several crucial issues, such as misconceptions about nomenclature, problems with institutional formats between central and regional relations, licensing issues, and the accommodation of nuclear energy [8].

Energy governance in Indonesia is currently progressing towards two directions, namely the use and utilization of fossil energy and renewable energy. This is because Indonesia is still in the phase of energy transition, which is currently dominated by fossil energy. For this reason, energy management in Indonesia must be assisted so that it is in accordance with the goals and ideals of Indonesia. One of the doctrines that can be used to oversee or correct government policies and actions in energy governance is the *Public Trust Doctrine* (PTD). This doctrine is the basis for managing and utilizing the environment and natural resources in order to maintain and assure the public interest [9].

The use of this doctrine is relevant today because it coincides with the momentum of the transition from energy to renewable energy in Indonesia. This doctrine can be used to oversee and ensure that policies on new and renewable energy designed by the government are in accordance with the public interest, not the other way around. This paper is expected to provide an overview or notes on the weaknesses of renewable energy policies related to PTD.

2 Research Method

This research uses the juridical-normative method, also known as doctrinal legal research [10]. In this study, the author focuses on knowing, reviewing and analyzing renewable energy governance in Indonesia from the perspective of PTD. In this study, the author will examine various laws and regulations and literature related to renewable energy governance and PTD, both at the international and national levels, and then analyze them so that they can answer the problems in this study. The study questions in this study are (1) How is the paradigm and development of PTD in the legal system in Indonesia? (2) How is the implementation of PTD as a new concept in the management of renewable energy in Indonesia? The purposes of this study are (1) to find out the paradigm and development of PTD in the legal system in Indonesia, and (2) to find out the implementation of PTD as a new concept in renewable energy governance in Indonesia.

3 Results and Discussion

3.1 Public Trust Doctrine

In the development of law of natural resources, there is an ancient doctrine known as the *public trust doctrine* which first appeared in ancient Rome. This doctrine was then known again in England in the Middle Ages, and then in America in the 19th century. This doctrine is also known as the earliest doctrine in the principles of environmental law before the rules of environmental law was spread around the world. Therefore, this doctrine is also known as “Law’s DNA” [11]. This doctrine functions in limiting government actions and providing public access as a right in natural resource management.

The *public trust doctrine* of Harrison Dunning is considered as the *fundamental doctrine of American property law*. This is because the *public trust doctrine* obliges the government to provide protection to existing environmental resources [12]. In the concept of *public trust doctrine*, the role of natural resource management by the community is to trust natural resources as a public right. Scholars mention this as natural rights or human rights.

Daud Silalahi emphasizes that the concept of *public trust doctrine* is closely related to the principle of common ownership of natural resource [13]. It is affirmed through the Article 33 Paragraph (3) of the UUD NRI (Constitution of the Republic of Indonesia) which states that the control of natural resources is controlled by the state and used for the prosperity of the people. The dimension of public ownership in the article shows that the *public trust doctrine* has been adopted in the Indonesian legal system and the government in relation to Article 33 Paragraph (3) of the Constitution of the Republic of Indonesia. The state has an obligation to maintain and manage natural resources whose goal is the prosperity of the people.

In the United States, *public trust doctrine* is regulated through the state Constitution with the aim of protecting and preserving the environment [14]. There are five states that have *public trust doctrine* in managing their natural resources. In 1969, the United States government in the regulations of the National Environmental Policy Act underlined that the national goals are as follows:

“Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations”

The statement shows that there is absorption from public trust doctrine so that the government has a responsibility to protect the environment between generations. After the inclusion of *public trust doctrine* in the National Environmental Policy Act, the states have also incorporated *public trust doctrine* into their state constitutions [15].

Public trust doctrine is a medium in providing public space to support democracy. Everybody including the future generations has the right to the benefits of this doctrine. The *public trust doctrine* is a common property of eternal natural resources and gives the state (executive and legislative) obligations to ensure that natural resources are managed properly so that they are beneficial for current and future generations. Therefore, this doctrine is inclusive of political and legal traditions that exist throughout the world and reflects the doctrine as a fundamental and inalienable sovereignty of the government. In

other words, that right becomes a right that cannot be revoked by anyone until future generations.

The view that *public trust doctrine* is *inter-generational* is put forward in *Oposa V. Factoran* as a *landmark decision* in inter-generational environmental management, which is mentioned as follows:

“Every generation has a responsibility to the next to preserve that rhythm and harmony for the full enjoyment of a balanced and healthful ecology.... [This] belongs to a different category of rights [than civil and political rights] altogether for it concerns nothing less than self-preservation and self-perpetuation... the advancement of which may even be said to predate all governments and constitutions.” [16].

The *inter-generational* nature, in addition to limiting and giving responsibility to the government in managing natural resources based on the interests of the people, also limits the actions of the legislative body to act in accordance with the public interest and does not damage the trust of people in the legislative body in the future.

In the world, the *public trust doctrine* approach has become part of the campaign to overcome the climate crisis. In addition to natural resources, the atmosphere is also part of the common public trust asset so that in managing the environment, the state has an obligation to maintain the atmosphere as part of public ownership.

Public trust doctrine also accommodates between public rights and private rights. The purpose of this accommodation is so that the state can revoke the permit granted to private business in managing natural resources in an effort to uphold the rights of public trust in the government. In addition, accommodation for public and private rights is also embodied in facilitating public access to the benefits of natural resources.

In the legal system of Indonesia, the provision of *public trust doctrine* is stated *explicit verbis* in Article 33 Paragraph (3) of the Constitution of the Republic of Indonesia which reads as follows:

“Earth and water and the natural resources contained therein are controlled by the state and used for the greatest prosperity of the people.”

Next, *public trust doctrine* is also implied in Constitutional Court Verdict No. 001-021-022/PUU-I/2003 which reads as follows:

“... Including the notion of public ownership by the people’s collectivity, which mandates the state to carry out policies (*beleid*) and management actions (*bestuursdaad*), regulation (*regelendaad*), management (*beheersdaad*) and supervision (*toezichthoudensdaan*) for the purpose of the prosperity of the people.”

Arrangements regarding *public trust doctrine* should be regulated concretely in the laws and regulations in Indonesia, especially in the regulation of natural resources and energy. This way, the management of natural resources and energy will be based on good faith in protecting natural resources as common property rights. With the *public trust doctrine*, errors in the management of natural resources and energy will result in

a violation of the management of common property rights over natural resources and energy.

The urgency of adopting the public trust doctrine is to strengthen the management of national resources so that they can be enjoyed by everyone. With the existence of a strong doctrine in managing national resources on the basis of shared ownership, things that injure and reduce the essence of managing national resources can be minimized, such as wrong governance and the use of national resources that are not for the common people. In essence, the public trust doctrine emphasizes people's rights in managing natural resources.

3.2 Implementation of Public Trust Doctrine in Renewable Energy Governance

Energy sources in Indonesia can be grouped into two, namely fossil energy sources and renewable energy sources. Fossil energy is petroleum, natural gas and coal, which are of limited availability in nature and therefore non-renewable, while renewable energy sources are energy sources that come from energy resources which can be produced continuously with proper management, such as geothermal, wind, bioenergy, and sunlight. Energy use in Indonesia is still dominated by the use of fossil-based energy, especially petroleum, coal and natural gas. In Indonesia, energy use is an important issue to be studied because it integrates with various sectors of life. Population growth and mobility as well as economic growth are directly proportional to the increasing demand for energy, both in the industrial, transportation and household sectors. Fossil energy which is the mainstay in Indonesia is gradually becoming unable to support the increasing energy needs. Generally, this phenomenon occurs due to several factors, including the decline in energy production in Indonesia from year to year, as well as the depletion of Indonesia's reserves of resources.

So far, environmental law in Indonesia is not optimal in protecting important natural resources and controlling the lives of many people, as well as maximizing the potential of renewable energy. Indonesia has great potential in developing new and renewable energy, including wind energy of 950 Megawatts, solar power of Gigawatts, hydropower of 75 Gigawatts, biofuel energy of 32 Megawatts, biomass energy of 32 Megawatts, and potential energy of the earth's oceans. geothermal) which is estimated to have a potential of 29 Gigawatts. However, the utilization and management of the new and renewable energy is still not implemented optimally.

This condition can be seen in the slow growth of the contribution of renewable energy to energy supply, where from 2014 to 2016, the contribution of renewable energy only shifted from 6% to 7%, even until 2020 the renewable energy mix was still far from the target, which only reached 11%. The welfare of the energy needs in Indonesia has not been evenly distributed. Indonesia's electrification ratio until 2020 reaches 98.93%, but is still dominated by Java, while Southeast Sulawesi is 97.41%, Papua is 94.31%, and Nusa Tenggara Timur is 85.85%. This means that there are still regional disparities in Indonesia in terms of access to electricity, so that the fulfillment of energy in Indonesia is not evenly distributed as a whole. This is caused by various factors, such as permits or recommendations, land acquisition, imports of goods, funding and construction problems (materials, lack of management, escalation).

The concept of PTD has been abstracted in our Constitution, namely Article 33 Paragraph 3 of UUD NRI 1945 which reads: “Earth, water and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people”. M. Daud Silalahi understands this article as the embodiment of PTD in Indonesia based on the control of natural resources to be managed and used for the prosperity of the people, which obliges the Government as mandated by the people to protect their interests over the rights to manage natural resources so as not to be harmed, including the management of renewable energy [17].

When PTD is applied in renewable energy governance, there are several outputs that can be generated from it, namely:

- (1) Protecting the environment from “substantial damage” [18]. The government must not allow renewable energy source assets to be managed without paying attention to their impact on the environment
- (2) Preserving the natural heritage for future generations. By managing renewable energy, the green energy mix will increase, which is good for reducing environmental damage resulting from fossil energy and ensuring the availability of clean energy sources in the future. In the case of renewable energy governance, it means that the Government allows the current generation to use the “yield” of resources rather than spending the natural “capital” that sustains the results. Then, limiting the use of fossil energy to be sufficient for the future
- (3) Maximizing the social value of natural resources. With the PTD principle, the Government must use the potential of renewable energy and manage it for the public interest purposes, and not to serve the interests of private sectors
- (4) Firmly striving to restore the damage caused by the use of fossil energy sources from third parties that harm or destroy public trust [19, 20]. The PTD concept will provide a financing mechanism for restoration of environmental damage

PTD will be optimized if there is consistent implementation by law enforcement officers to enforce the law against environmental violations and permits for renewable energy management. This is because the main purpose of the PTD principle is to oversee the Government’s disposition of renewable energy governance owned by public. PTD can be a bridge between public property rights that are protected by law and private property rights that are obtained [21].

Under Law Number 30 of 2007 concerning Energy and Law Number 32 of 2009 concerning Protection and Management of the Environment as well as Law Number 11 of 2020 concerning Job Creation, the Government has not yet optimized the regulation regarding renewable energy, and “allows” the destruction of environment and ecology through a permit system that benefits private interests. This broad discretion creates political pressure that is inseparable from industrial interests, thus allowing a dysfunctional and fragmented approach that causes renewable energy governance to be suboptimal until now, hence the majority of current energy use dominated by fossil energy.

PTD provides a macro-based approach which is capable of evaluating the overall management of natural resources, including renewable energy governance. The government must reconsider the allocation of resources sourced from fossil energy which “may be wrong in current knowledge or not in accordance with current needs”, because fossil

energy sources will eventually run out while energy needs are continually increasing. The transition to renewable energy must begin to be licensed so that it is in line with PTD's objectives, namely protecting the interests of future generations in order to obtain green energy.

The *Public Trust Doctrine* (PTD) is one of the oldest principles of environmental law, which is important in relation to the governance of renewable energy in Indonesia. This is because effective renewable energy governance can reduce the impact of environmental damage, and it is also impossible for renewable energy governance to be effective if environmental law enforcement is not optimal. The PTD principle talks about one of the most important goals of the Government's existence in renewable energy governance: protecting the ecology for the survival and well-being of citizens. This is in accordance with the fundamental attribute of sovereignty which is reflected in the constitution of each country. PTD itself functions as a constitutional "base", "supervision" or "examination" of the Government, both in the executive and legislative branches, so as not to waste renewable energy potential in neglecting renewable energy governance only due to short-term political interests, which causes losses in the subsequent administration and cannot be repaired within a reasonable time. This concept can ensure that the essence of sovereignty, namely the ability and obligation to exercise power for the benefit of the people, is not threatened in its implementation. Renewable energy must be managed for the long-term interest to achieve energy independence in accordance with the mandate of the UUD NRI 1945.

Recognizing that some of the most pressing energy and environmental crises involve the planet's living systems that span the boundaries of national jurisdictions, the PTD concept is the only principle with global recognition that can provide a common global platform that can be enforced in each country's courts. Under the construction of the PTD concept, the governance of renewable energy is under the government as the recipient of the mandate from the general public with a universal obligation to maintain the management of renewable energy so that it can be utilized optimally. The use of the PTD concept has proven to be very important for the well-being of present and future generations.

4 Conclusion

Energy governance in Indonesia is faced with many challenges of dual-oriented policies. PTD provides a macro-based approach that can evaluate the overall management of natural resources, including the governance of renewable energy in Indonesia. PTD itself functions as an evaluation theory to examine the constitutionality of government policies and actions in energy governance. The renewable energy governance policies in Indonesia, considering the PTD, has not yet fully reached the public interest, because there are still many crucial issues that can actually harm the public interest, such as the accommodation of nuclear energy in the Bill of New and Renewable Energy to the issue of funding coal energy.

References

1. Agus Sugiyono, Penggunaan Energi dan Pemanasan Global: Prospek bagi Indonesia, Makalah Tugas Ekonomi Lingkungan, Universitas Gadjah Mada, Maret 2002, diakses di https://www.researchgate.net/publication/264784088_Penggunaan_Energi_dan_Pemanaan_Global_Prospek_bagi_Indonesia pada tanggal 27, 08, 2021,
2. Sri Nurhayati Qodriyatun, Green Energy dan Target Pengurangan Emisi, Info Singkat: Kajian Singkat Terhadap Isu Aktual dan Strategis, Vol. XIII, No. 6/II/Puslit/Maret/2021.
3. Imam Mulyana, Indonesia's Regulation and Policy in the Energy Sector: Urgency to Promote Energy Efficiency in Urban Areas, Yustisia Jurnal Hukum, Vol. 7 No. 2, May-Agustus 2018, [212]
4. Abubakar Lubis, Energi Terbaru dalam Pembangunan Berkelanjutan. Jurnal Teknik Lingkungan Vol. 8 No.2, 2007, hal 155-162. Jakarta: Mei 2007
5. United Nations, "Secretary-General Calls Latest IPCC Climate Report 'Code Red for Humanity', Stressing 'Irrefutable' Evidence of Human Influence, Meetings Coverage and Press Releases," 9 September 2021. <https://www.un.org/press/en/2021/sgsm20847.doc.htm>
6. Siwi Nugraheni, Yulius Purwadi Hermawan, Rakhmindyarto, Komitmen Indonesia Untuk Pembatasan Subsidi Bahan Bakar Fosil dan Peningkatan Efisiensi Energi di G20, Kajian Pusat Kebijakan Pembiayaan Perubahan Iklim dan Multilateral, Badan Kebijakan Fiskal Kementerian Keuangan. <https://www.kemenkeu.go.id/sites/default/files/pembatasan%20subsidi%20bahan%20bakar%20fosil%20dan%20efisiensi%20energi.pdf>
7. Article 9 Government Regulation No. 79 2014 Concerning National Energy Policy.
8. Indah Dwi Qurbani, Ilham Dwi Rafiqi, Prospective green constitution in new and renewable energy regulation, Legality: Jurnal Ilmiah Hukum, Vol. 30, No. 1, 2022, hlm. 68-87. <https://doi.org/10.22219/ljih.v30i1.18289>.
9. Ardianto Budi Rahmawan, Kenny Cetera, Kajian Teori Public Trust Doctrine dalam Kasus Lingkungan: Studi Kasus UU Minerba Baru, Jurnal Hukum Lingkungan Indonesia, Vol. 7, No. 1, 2020.
10. Johnny Ibrahim (2007), Teori dan metodologi dan Penelitian Hukum Normatif, Malang, Bayumedia.
11. Gerald Torres & Nathan Bellinger, The Public Trust: The Law's DNA, 4 Wake Forest Journal of Law & Policy 281 (2014).
12. Harrison C. Dunning, A Fundamental Doctrine of American Property Law, 19 Envtl. L. 515 (1989).
13. Daud Silalahi, Pengaturan Hukum Sumber Daya Air dan Lingkungan Hidup di Indonesia, (Bandung: Alumni. 2002).
14. Sun, H. "Toward A New Social-Political Theory of The Public Trust Doctrine". Vermont Law Review, Vol. 565, (2011).
15. Ardianto Budi & Kenny Cetera, Kajian Teori Public Trust Doctrine Dalam Kasus Lingkungan: Studi Kasus UU Minerba Baru, Jurnal Hukum Lingkungan Indonesia, Vol. 7, No. 1, 2020
16. Phillipines Supreme Court in *Oposa v. Factoran*.
17. M. Daud Silalahi. Pengaturan Hukum Sumber Daya Air dan Lingkungan Hidup di Indonesia, Bandung, Alumni, 2022.
18. Mary Christina Wood, "Advancing The Sovereign trust of Government to Safeguard the Environment for Present and Future Generations: Instilling A Fiduciary Obligation in Governance, Lewis & Clark Law School ENVTL L. Vol 39, No. 91, (2009).
19. Sun, H. "Toward A New Social-Political Theory of the Public Trust Doctrine". Vermont Law Review, Vol 565, (2011).

20. Raphael D. Sagarin & Mary Turnipseed, “The Public Trust Doctrine: Where Ecology Meets Natural Resources Management”, *Annu Rev. Environ, Resour*, Vol. 37 (2012).
21. Mary Christina Wood, *Natures’s Trust: Environmental Law for A New Ecological Age* (Cambridge: Cambridge University Press, 2013).

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