

The Exigency of Fossil Fuel Discontinuation for the Attainment of Indonesia's Governmental Mandates in the Transition Towards Sustainable Energy

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Abstract

This research discusses the urgency of addressing climate change, emphasizing the need to shift away from fossil fuels and transition to new and renewable energy sources. It highlights the increasing frequency of climate-related disasters and the global commitment to limiting temperature rise as outlined in the Paris Agreement. The text also mentions the challenges in Indonesia's energy landscape, including a heavy reliance on fossil fuels and the importance of government intervention to promote renewable energy. It stresses the significance of a legal framework to support the transition to renewable energy and emphasizes the role of organizations like the Institute for Essential Services Reform (IESR) in driving this transition. Ultimately, it underscores the pressing need for decisive action to combat climate change and promote sustainable energy practices.

Keywords: Fossil Fuel Discontinuation, Attainment of Indonesia's Governmental Mandates, Sustainable Energy

INTRODUCTION

Climate change is accelerating and has started turning into a runaway freight train, leading to an impending catastrophe for all living things. To fathom the gravity of the climate emergency, it is requisite to comprehend the means of stopping this devastation by leaving fossil fuels in the ground, where they belong. In the report notified by the Center for Research on the Epidemiology of Disasters, the world witnessed three hundred and fifteen natural disasters in 2018, with the majority being climate-related, where this included ten occurrences of wildfire, sixteen incidents of drought, twenty-six cases of extreme temperature, one hundred and twenty-seven high profile cases of flooding, thirteen events of landslides, and ninety-five happenings of storms. Contemplating this, enhancing new and renewable energy as one of the endeavors becomes pivotal for Indonesia to uphold its commitment in Article (2) of the Paris Agreement, which specifies that the temperature rise is limited to below 2 degree Celsius with a final target of 1.5 degrees Celsius above the earth's temperature during the pre-industrial era, where this target is both an enterprising agreement and a breakthrough in battling climate change.

In the meantime, the 2019 Brown to Green Report issued by the Institute for Essential Services Reform (IESR) asserted that fossil fuels as one of the stimuli of climate change still prevail in the primary energy mix for power plants by 87.6 percent, leaving only 12.4 percent for renewable energy, notably the subsidies in Indonesia reached USD 7.7 billion in 2017 which ought to be allocated to ramp up the amount of renewable energy where the intended portion in the energy mix comes 23 percent by 2025. Furthermore, it is envisaged that by the year 2027, the annual power consumption of Indonesians will have proliferated by 7.1 percent, surpassing 443 terawatt hours. According to the British Petroleum Statistical Review of World Energy in 2018, the availability of materials in power plants would be questioned in the years 2027 and 2028 if fossil fuels like coal and oil continued to be used. Thus, the nation should reject infrastructure that would extract high-carbon fossil fuels from the earth and encourage national standards that restrict the carbon pollution the power plants can emit into the atmosphere.

Pursuant to Article (1) Law Number 30 of 2007 concerning Energy, there are ways to think about what constitutes new and renewable energy, where "New Energy" refers to energy obtained from sources that are currently not used en masse by humans and in the stage of technology development. To illustrate, hydrogen possesses sustainable properties due to the fact that water, a renewable source of energy that by definition cannot be depleted, is its primary component. On the other hand, the term "Renewable Energy" alludes to energy that is derived from non-exhaustible renewable energy sources that can be sustained if properly managed, such as biomass, which can be deduced from trees, grass, agricultural waste, and even livestock manure. In an approach to boost a nation's energy independence and security, energy management fosters the condition of ensuring the availability of energy by optimizing the use of domestic sources. In the development of public policies respecting energy transition issues, Government intervention is essential as a means of mitigating climate change and supporting sustainable renewable energy progression to alleviate fossil fuels, as mandated by Article (4) of Energy Law, where the state regulates new and renewable energy resources, the exploitation of those resources must be done in order to achieve maximum the wellbeing of the people.

In order for the community to be able to continue to exist and to advance its own welfare as mandated in Article (33) Paragraph (3) of the 1945 Constitution, it is obligated that the Government and the Regional Government, operating together with their respective authorities, make the necessary improvements to it, along with providing a certain measure of security. Within the framework of the Sustainable Development Goals (SDGs), sustainable development steps are carried out with comprehensive environmental quality protection in

Indonesia, as a country that is highly susceptible to the impacts of climate change, as referred to in Article (2) of Presidential Regulation Number 59 of 2017 concerning Implementation of the Achievement of Sustainable Development Goals.

Amidst the many rules, including the New and Renewable Energy Bill ratified in March 2021, the primary policy direction is still centered on low-cost and high-efficiency fuel with an emphasis on determining fuel price and funds sourced from renewable energy. Of the fifteen chapters in the bill, only two chapters that are genuinely new and targeted, which is conveyed in Chapter VIII, where the Central Government determines the selling price, achieving economical and affordable rates so that profits can be assessed based on the purchasing power of the people. Also Chapter X, which specifies the source of funds allocated for the matters stated in point 3 of Article (53), and is controlled by the minister in charge of government affairs in the financial sector. This proposed law, if it were to be inaugurated, should include the curtailment of non-renewable materials usage, such as fossil fuels, to serve as a robust legal basis that provides legal certainty to optimize the field of renewable energy as part of the energy transition to attain net zero emissions. Thereby, as a plethora of hydro-meteorological disasters occur, which portrays the real risk of climate change, there is a growing sense of urgency pertaining to climate change mitigation efforts. To achieve a zero-emission energy system, the Government must take decisive action and establish new regulations. In the New and Renewable Energy Bill, the primary concern for the future of Indonesia is not only as a form of action to ensure maximum new and renewable energy application, but additionally to decline fossil fuels practice and create sustainable energy that is ecologically responsible. Government should acknowledge that the use of fossil fuels is a significant contributor to the climate crisis.

To manage the climate emergency impacts, citizens ought to acknowledge the significance of making the transition to new and renewable energy sources as a climate control strategy to mitigate the adverse effects of climate change. Strategic regulation as a transition to new and renewable energy systems can be bolstered by the presence of the Institute for Essential Services Reform (IESR), a body with the mission to stimulate the acceleration of Indonesia's energy transition by apprising policymakers as well as stakeholders in the energy industry, while also taking into account community as actors that will implement the policies. To pull off that objective, the IESR has published a review titled "Deep decarbonization of Indonesia's energy system: Pathways to carbon neutrality by 2050," which sought to expand media and stakeholder awareness of the potential for decarbonizing Indonesia's energy system by that year. The literature proves that the current system's reliance on fossil fuels means that power sector emissions will continue to rise, to the tune of about 200 metric tons of carbon dioxide equivalent (CO₂eq). As of now, 11 gigawatts of coal power plants are under construction, bringing the total to 44 gigawatts by 2030, and coal electricity production will still escalate from 185 to 355 terawatt hours. The inputs and recommendations from such public policy advocacy can be incorporated into the academic draft text of Indonesia's new and renewable energy policy law.

RESEARCH METHOD

In the present research, a juridical-normative methodology has been employed, characterized by a meticulous examination of secondary data derived from library resources. The focal point of this research revolves around a comprehensive exploration of environmental jurisprudence, regulatory frameworks, and legal doctrines. The sources of secondary data utilized encompass primary legal sources exemplified by agreements and legislative texts, secondary legal sources including scholarly tomes and academic journals, and tertiary legal resources procured from online platforms. Qualitative analysis was conducted with the primary objective of elucidating the amassed data. It is anticipated that this scholarly endeavor will

contribute novel perspectives to the evolving domain of Environmental Law. The discernments extracted from this research are poised to serve as a seminal point of reference for forthcoming scholars engaged in research within cognate disciplines.

RESULT AND DISCUSSION

Charting the Path to Sustainable Energy Transition in Indonesia: Regulatory Frameworks and Challenges

The regulation governing the new and renewable energy usage should be regarded as vital to the administration of a nation, as it has a notable impact on the process of protecting the environment by the country itself. Heretofore, Indonesia remains reliant on nonrenewable energy derived from fossil fuels. Depending on the Handbook of Energy and Economic Statistics of Indonesia in 2020, fossil fuels have long been the predominant source of electricity throughout a significant portion of the country's history. They have been responsible for providing more than 90 percent of the annual primary energy supply over the course of the past decade, despite the fact that their availability is declining, which makes them a substantial contributor to climate change. The ever-increasing demand for energy is being driven in large part by factors such as expanding industries, developing economies, and a growing worldwide population. The actual data that the IESR released in May 2021 displayed that renewable energy only accounted for around 15 percent in the first semester of 2020, which indicates that it will be challenging to achieve the target of 23 percent as primary by 2025. From 2015 to 2019, renewable energy accounted for only about 12.2 percent of total electricity generation. With only about 9 percent of the direct energy used in 2019, renewable sources are even less significant.

The concept of adopting new forms of energy in Indonesia was first conceived several years ago. Nevertheless, the community's and government's focus on this problem is not a passing fad, but rather a long-term necessity. This is marked by the issuance of Energy and Mineral Resources Ministry Regulation Number 4 of 2020 on the Amendment to Regulation 50 of 2017 concerning the Utilization of Renewable Energy Sources for the Provision of Electricity, which makes updates and enhancements to the original law in light of current conditions. To demonstrate the concept, in adherence to Article (4), a mechanism referred to as direct appointment can be employed to purchase electricity from several different new and renewable energy plants. As an outcome, the policies are expected to be upheld well into the foreseeable future. Due to the apparent positive impact that they have on the surrounding ecosystem, the use of this energy form has become a demand for the earth as a whole and its inhabitants. The Government has pledged to continue advancing the new and renewable energy usage to keep with the Paris Agreement and commit to the SDGs, particularly point seven: ensuring access to affordable, reliable, sustainable, and modern energy for all. The Energy and Mineral Resources Ministry translates the SDGs into "equitable energy," intending to provide sustainable, low-cost energy available to all segments of the population. The realization and commitment of the government to sustainable energy, which is best demonstrated by the shift away from fossil fuels, have resulted in the production of a plan for national energy policies. The role of new and renewable energy in Indonesia is expected to reach 23 to 25 percent by the year 2025, and it is envisioned to expand to 36 percent by 2050, as indicated in the blueprint, which was cited by Daryanto in his book.

Entrenched from Law Number 32 of 2009, the Principles of Environmental Protection and Management must be abided in Indonesia during the country's transition of energy source. As stated in Article (2), the inclusion of the sustainability principle demonstrates that everyone bears obligations and responsibilities not only to those living in the same era but also to those living in subsequent eras by making efforts to preserve the carrying capacity of the ecosystem

and improve environmental quality. In light of this, renewable energy sources are being advanced to supply energy that is not detrimental to the environment and can be utilized continuously, guaranteeing the industry's continued existence in the long run. Despite the numerous positive outcomes associated with new and renewable energy utilization in Indonesia, there are also challenges related to its implementation, such as the fact that its use is still thought to necessitate a relatively high procurement cost, which significantly outweighs the expense of other fossil fuels like oil and coal. Statistics from the Center for Data and Information Technology on Energy and Mineral Resources put the Levelized Cost of Electricity (LCoE) for generating electricity in 2015 at Rp. 868 per kilowatt hour. In the fossil fuel scenario, there is relatively no change in the generation cost until 2025. By contrast, compared to the National Energy General Plan scenario, the generation cost of new and renewable energy will rise by 26 percent in 2025. Reducing investment costs for Solar Power Plants and Wind Power Plants by that year will still elevate the generating cost, which is 19 percent. The high initial cost of investing in new and renewable energy sources has a tangible effect on the cost of electricity.

On the other hand, it is believed that discovering a solution to this issue will not be overly complicated on the strength of collaboration between the government and the private sector to make new and renewable energy sources applications operational in Indonesia. This will provide the government with a huge opportunity to fully regulate it, particularly since Article (33) paragraph (3) of the 1945 Constitution encourages the centralization of energy regulation by the state. In place of fossil fuels, which are finite and unsustainable if used indefinitely, new and renewable energy sources can play an essential role as a substitute resource. As obliged by Law Number 30 of 2007, one aspect of the energy transition is determining how the nation can supply energy while also adhering to the principles of environmental preservation and community welfare. Given this, Indonesia should be able to put more effort into reducing its use of fossil fuels and promoting the switch to renewable energy sources, both of which are important in the fight against climate change.

Unpacking the Policy Framework for Indonesia's Transition to Sustainable Energy: Constitutional Mandates and Global Commitments

At the very least, there are two things that contribute to the formation of a problem in the legal system: first, a constitutional mandate from the Constitution of 1945, and second, the legal vacuum where regulations are needed to govern something that has not previously been regulated. Following the Judicial Commission's release, the 1945 Constitution stipulates that the citizens collectively authorize the state to carry out policies and management actions, regulation, management and supervision for people's well-being. Article (2) of Government Regulation Number 79 of 2014 declares that the government shall manage and maintain energy resources for the benefit of the prosperity of all Indonesian people, following the principles of justice, sustainability, and environmental insight, to achieve energy independence and national energy security.

As specified by the report published by the National Energy Council in 2014, the policies governing energy management had shifted from perceiving energy resources as an export commodity to generating foreign exchange to viewing it as national development capital. This latter strategy is anticipated to increase state revenue from the energy sector, which subsequently is used to encourage the development of the energy sector. Increasing the proportion of renewable use, reducing the amount of petroleum and natural gas used, and expanding new energy sources are the priorities for energy development, for which these priorities are carried out with the preservation of environmental functions in mind. In addition, the export of fossil fuels, particularly gas and coal, is made to decline gradually, and a specific time limit is set for the complete cessation of exports.

It is conforming to a press release numbered 8.Pers/04/SJI/2022 issued by the Ministry of Energy and Mineral Resources on January 6, 2022, the transition to sustainable energy is also a priority issue during Indonesia's Presidency of the G20. By partaking in this forum, Indonesia is offered an incentive to seek the collective efforts of the world in implementing policies that demonstrate full support for the transition to a sustainable global energy source. The New and Renewable Energy Bill can catalyze to hasten Indonesia's shift from fossil fuels to renewable energy development. Upon reading the relevant draft law, there are new guidelines such as the establishment of selling price (Chapter VIII), legal basis for providing incentives (Chapter IX), the funds initiation (Chapter X), and the prerequisites for the State Electricity Company and Pertamina to purchase electricity from new and renewable energy sources (Article 20). Unfortunately, this Draft Law does not yet contain adequate detail on how to leverage new and renewable energy sources while simultaneously eliminating reliance on fossil fuels. In point of fact, Indonesia places a substantial amount of importance on the utilization of fossil fuels including coal, oil, and natural gas in order to power its economic activities. This condition contradicts the rate of decline in fossil energy production from 2019 to 2020, only reaching 740,000 barrels per day.

The specific restrictions that the bill places on the use of fossil fuels will potentially curb the demand for this kind of energy while also doing away with the need for it. This will make it feasible to preserve the planet's climate without resorting to forms of power that are not sustainable. This is in consonance with the intention of the G20, which is to maintain the climate stable and forestall catastrophic global warming. Every country feels the impact of the sustainable energy transition issue, where the earth's temperature is forecasted to rise by 1.5 degrees Celsius within the next five years, as G20 spokesperson Maudy Ayunda alleged on March 31, 2022.

The Government undeniably has a profound influence on the process of developing national climate targets and long-term strategies. In spite of this, the outcomes of such a strategy will be highly dependent on the governments of the local and provinces. Ergo, it is incumbent upon the government to investigate the possibility of policy discrepancies existing between the national strategy and the provincial and regional action plans. The Institute for Essential Services Reform has conducted a study entitled "Deep decarbonization of Indonesia's energy system: Pathways to carbon neutrality by 2050," which predicts that the country's greenhouse gas emissions will drop from about 502 metric tons of carbon dioxide equivalent in 2020 to nearly zero by 2050 as a result of a reduction in fossil fuel use. In order to be effective in accomplishing this objective, the Government should make the diminution of its reliance on fossil fuels and the coordination of its energy strategy with the development of new and renewable energy sources a top priority.

To be more precise, there should be a new climate target for 2030 and 2050 that is more assertive, and this target should be reflected in the National Energy Plan as well as the Regional Energy Plans. These plans, in turn, should implement the detailed action plans that are designed to fulfill the requirements of the target. With the assistance of general media forums such as Jakarta Post and Kompas to disseminate its findings and raise public awareness, IESR is capable of influencing public policy through the systemic reform of academic texts and the body of the new renewable energy bill in attempt to lessen the nation's reliance on fossil fuels to tackle climate change. In addition to this, it stimulates actors in the private sector and international investors to initiate environmental mitigation projects, such as projects for power plants that run on renewable energy sources.

CONCLUSION

Every year, new and undeniable climate events are encountered. The Centre for Research on the Epidemiology of Disasters discloses that three hundred and fifteen natural

disasters occurred around the world in 2018, a high proportion of which were caused by climate change, further demonstrating that expedited climate change is here and has been for some time.

For this reason, Indonesia ought to be able to put more exertion into suppressing its use of fossil fuels and promoting the switch to renewable energy sources, both of which are pertinent in achieving point number seven of the SDGs to tackle climate change. On that account, the government must now take decisive, large-scale action, backed by a deeper study into the process of formulating the New and Renewable Energy Bill, in which Indonesia can supply energy coherent with both the principle of preserving environmental functions and public welfare, as mandated by Law Number 30 of 2007. Transitioning away from fossil fuels to reach the target portion of renewable energy of 23 percent by 2025 is not only attainable but also a good national policy. In order to implement a fair and equitable low-carbon energy transition policy, it is critical to pay attention to the budgeting procedure as one of the obstacles; the transition process calls for substantial resources, and brand-new initiatives necessitate fresh capital expenditures.

Consequently, viable financing options must be investigated to establish an economic price and minimal community impact. Under these circumstances, the G20 Presidency is expected to bridge and encourage developing countries to accelerate the energy transition process, strengthening the existing and sustainable energy system in a global agreement. Upon decades of deliberations and roundtables, it is time to announce: No more debate. No more justifications. No more ten-year studies. No further permitting fossil fuel to coerce science and policies affecting our future. Leaving fossil fuels in favor of new and renewable energy is the first move toward demonstrating that this progression is not only the honorable choice to do for our planet, but also makes sensible economic sense and is feasible within our lifetime.

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