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Analysing The Legal Dynamics Involved in The Development of New Renewable Energy in Indonesia, Focussing on Regulations and The Challenges Faced During Implementation

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Abstract. *Energy is an essential requirement for civilisation, and due to the rapid expansion of the population in Indonesia, energy consumption has also experienced a substantial rise. Hence, it is crucial to utilise and enhance the capacity of sustainable energy resources present across the archipelago, including geothermal, hydropower, wind, bioenergy (including bioethanol, biodiesel, and biomass), ocean current energy, nuclear, and solar energy. Indonesia's energy strategy is currently focused on the use of renewable energy to decrease carbon emissions. This is backed by legislation that promotes the development of renewable energy programs under the National Energy strategy. This article evaluates the regulatory factors associated with the advancement of new renewable energy and its influence on the establishment of sustainable energy infrastructure in Indonesia. This research provides a comprehensive legal analysis of the changing regulations surrounding renewable energy. It examines how these regulations affect the establishment of sustainable energy infrastructure and investigates the current legal consequences. The study aims to understand how the regulatory framework can either support or impede the progress of renewable energy development. This research offers valuable insights on the role of legislation in facilitating the shift towards sustainable energy sources in Indonesia. It also sheds light on the potential obstacles and advantages that may arise during this transition.*

Keywords: *Energy Potential in Indonesia, Energy Regulations, Renewable Energy, The Role of Law in Energy Transition.*

INTRODUCTION

Energy is an essential component that plays a major role in upholding the long-term viability of community existence and propelling a nation's progress. In Indonesia, the population's rapid development has led to significant issues regarding the continuously rising energy demands. Relying on traditional energy sources, such as fossil fuels, has been shown to have adverse effects on both the environment and the long-term viability of natural resources. Hence, the shift towards the utilisation of renewable energy is no longer a choice, but a need. The rise in unsustainable energy consumption poses a substantial threat to ecosystems, jeopardises the equilibrium of nature, and depletes finite natural resource stocks.

Indonesia possesses ample natural resources, which provide a significant opportunity for the development of renewable energy as a viable solution to upcoming energy concerns. The archipelago is rich in diverse energy sources, including geothermal, hydro, wind, biomass, ocean currents, nuclear, and solar. These sources have immense potential for optimal utilisation. The national energy policy is shifting towards a greener approach, prioritising the adoption of renewable energy as a key component of a sustainable long-term energy resilience strategy. The use of renewable energy is essential for managing energy constraints, maintaining

environmental sustainability, and assuring the ongoing growth of energy infrastructure in the future.

Energy consumption in Indonesia is predominantly reliant on fossil fuels, including petroleum, natural gas, and coal. The utilisation of new and renewable energy (NRE) is currently considered an option and has not yet been given high priority in satisfying the country's energy requirements. The significant reliance on fossil energy poses at least three significant concerns that must not be overlooked. Initially, the depleting stockpiles of crude oil, particularly in the absence of noteworthy recent findings. Furthermore, the global oil prices are characterised by their high volatility and unpredictability, mostly due to the persistent imbalance between the demand for oil and the level of global oil production. Furthermore, the escalating environmental repercussions caused by the emission of greenhouse gases resulting from the combustion of fossil fuels are becoming a growing issue. These emissions directly contribute to the phenomenon of global climate change.

Indonesia has predominantly relied on fuel oil (BBM) derived from crude oil to sustain many aspects of life. BBM is crucial in the transportation sector, industry, and meeting home demands. The current national fuel consumption is roughly 1.63 million barrels per day, and it is projected to increase further due to population growth and expanding economic activity in several sectors. The significant reliance on fossil fuels, particularly petroleum, results in an imbalance between national oil consumption and production, which poses substantial concerns of energy supply shortages (Lestari, Vita Puji, 2021).

This issue involves not only the scarcity of fuel supply for domestic consumption but also impacts the stability of gasoline costs, which are progressively becoming unsustainable for the general population. Moreover, sectors that significantly depend on fossil fuels may encounter a deceleration or cessation as a result of energy scarcity, so posing a threat to the overall output of the nation. From a macroeconomic standpoint, reliance on imported oil depletes the nation's foreign currency reserves, undermines the trade balance, and thus jeopardises the stability of the national economy. Therefore, this threat not only pertains to the scarcity of energy, but also has a consequential impact on other aspects of life and the progress of a nation (Al Hakim, Rosyid Ridlo, 2020).

In order to tackle this issue, Indonesia must make a concerted effort to expand its energy sources, with a particular focus on the advancement of innovative and sustainable energy options. This should be done as a fundamental component of the country's strategy to enhance its energy security. Relying on imported crude oil will further increase Indonesia's susceptibility to global market volatility and energy emergencies. Hence, the shift towards

renewable energy is not just an alternative option, but a pressing imperative to uphold energy resilience and foster sustainable economic growth, while also mitigating the escalating detrimental effects on the environment.

Indonesia officially controls the abundance of energy resources, including oil, natural gas, coal, and renewable energy sources like water, geothermal, and solar energy. The clause stated in Article 33, paragraph (3) of the 1945 Constitution affirms that the state has sovereignty over the ground, water, and natural resources, and they are to be utilised for the utmost prosperity of the people. This clause establishes the constitutional basis for the state to oversee and control the use of natural resources in the best interest of the people. This implies that the government not only possesses the authority to oversee these resources, but also bears the responsibility to guarantee that such oversight is conducted in a manner that promotes just and equal prosperity for the population.

Article 33, specifically paragraph (3), of the 1945 Constitution encompasses three crucial components that necessitate a comprehensive understanding. The article primarily focusses on the natural resources of Indonesia, which include all the valuable materials found in the country's land and underground. These resources are considered national assets that are essential for the state's objectives of attaining social and economic well-being. Furthermore, the state possesses complete jurisdiction over the control of natural resources, including the power to oversee, administer, and allocate the outcomes. The state assumes the role of the primary overseer with public authority that cannot be completely transferred to the private sector.

The primary aim of state control over natural resources, as stated in Article 33 paragraph (3), is to attain maximum prosperity for the populace. Consequently, any policy concerning the administration of natural resources must adhere to the idea of social justice, ensuring that the advantages are distributed equitably among all segments of society. The regulations governing the exploitation, management, and utilisation of energy resources should prioritise the welfare of the general population, rather than favouring a specific group or corporations. It is the duty of the state to guarantee the sustainable management of the current natural resources in Indonesia, with the aim of benefiting the entire population in terms of economic, social, and environmental issues (Purba, Achmad Zen Umar, 2006).

Nevertheless, in practical terms, there sometimes exists a disparity between these constitutional provisions and the actual circumstances. Indonesia's natural resources are frequently handled through collaborations with commercial firms, both domestic and foreign. However, the people often do not fully reap the advantages of these partnerships. This scenario

exemplifies the difficulties encountered when attempting to enforce the idea of state control, as resource management decisions are sometimes swayed by immediate economic concerns or external influences from the international community. Hence, it is crucial for the government to evaluate current policies and guarantee that all agreements or contracts pertaining to the administration of natural resources give utmost importance to the interests of the people, who are the legitimate owners of such wealth.

Amidst the shift towards renewable energy, the importance of Article 33 paragraph (3) is becoming more obvious, particularly in relation to sustainability and fairness in resource management. Renewable energy sources, such as solar, wind, and geothermal, provide considerable potential that must be effectively managed with a forward-thinking approach that considers not only financial gain but also the social and ecological consequences. The government should adopt an assertive stance in fostering the advancement of renewable energy, while giving utmost importance to the idea of public welfare. This action aligns not only with the requirements of the constitution, but also serves as a strategic measure to tackle upcoming energy difficulties and attain complete autonomy in national energy production.

According to the Constitution, the state has a crucial duty to oversee and advance the utilisation of natural resources, particularly those that are essential for the well-being of the population and the sustainability of the country. According to Article 33, paragraph (3) of the 1945 Constitution, the state has express sovereignty over the earth, water, and the natural resources found within them, with the aim of maximising the well-being of the people. This principle asserts the state's central role in overseeing the utilisation of natural resources, emphasising the need for a forward-looking approach that prioritises the long-term welfare of society as a whole, rather than focussing solely on immediate financial gains or the concerns of particular factions. It is the responsibility of the state to ensure that this management considers not only economic factors but also social, environmental, and sustainability factors (Redi, Ahmad, 2014).

The state is responsible for regulating, supervising, and managing the allocation of natural resources in a fair and equal manner for all segments of society. The state must ensure equitable distribution of the abundant natural resources in Indonesia, so that the advantages are accessible to all citizens rather than being limited to a privileged few. This is a dilemma, particularly in scenarios where vital industries frequently attract foreign investors or large corporations capable of repatriating a substantial share of their earnings. Hence, it is imperative for the state to adopt proactive measures to guarantee that all agreements or contracts entered into with external entities consistently prioritise the welfare of the populace and the nation.

Furthermore, the government is also required to exploit natural resources in a manner that ensures long-term sustainability. The sustainable management of essential natural resources for the community's well-being should not be conducted in an exploitative manner, prioritising economic advantages without considering the long-term consequences. The state must possess the capacity to formulate equitable policies that prioritise not only economic expansion but also the conservation of natural resources and the long-term viability of these resources for future generations. The adoption of this sustainable approach is crucial, given the multitude of global concerns associated with climate change and environmental deterioration resulting from the unsustainable exploitation of natural resources.

In the contemporary environment, the state's obligation is also gaining significance in the age of energy transition. In light of the growing global recognition of the significance of using renewable energy, it is imperative for the nation to ensure that the advancement of new renewable energy sources in Indonesia adheres to the ideals of fairness and the well-being of its citizens. This necessitates the state to develop policies that promote innovation, investment, and infrastructure in the renewable energy industry. Additionally, it is crucial to ensure that these resources are utilised not only for commercial purposes but also to enhance the community's quality of life and uphold national energy resilience. Effective governance of natural resources, especially in the realm of energy, is a fundamental prerequisite for attaining comprehensive and sustainable development.

If we consider the concept of sovereignty, which refers to the authority granted by the people to the state to enforce policies, regulate, govern, and supervise the affairs of the nation and the state, then the concept of energy sovereignty carries a similar significance. Energy sovereignty pertains to a nation's capacity to tackle issues and obstacles associated with the accessibility, administration, and allocation of energy. Within this framework, the state assumes the role of the principal overseer, responsible for setting policies, exercising management control, and ensuring an adequate energy supply to fulfil societal demands. The primary objective is to safeguard the well-being of individuals in all circumstances, including both ordinary conditions and emergencies. Energy sovereignty necessitates that a nation not only depend on external energy sources but also possess the ability to efficiently govern its own energy resources.

Energy sovereignty is significant not only in terms of economic factors but also has ramifications for national security. Relying on energy imports from other nations can lead to substantial vulnerabilities, particularly during a global crises or political conflicts that impact energy distribution. Energy sovereignty refers to a nation's capacity to ensure self-sufficiency

and sustainability in energy supply, without being completely dependent on other influences. A nation with full authority in the energy industry has the capability to develop strategies that guarantee the long-term viability of energy provision, while also managing price volatility or interruptions that may arise in the global market (Nabila, Farah, 2015).

The Energy Law No. 30 of 2007 establishes the legislative framework for the Indonesian government to oversee and control the country's energy resources. This legislation highlights the significance of energy independence in attaining a strong and secure national energy system. The rule mandates that the government must strategically plan, effectively manage, and closely supervise the utilisation of energy resources, adhering to the principles of sustainability and efficiency. An essential element of this legislation is that the government must guarantee the accessibility of energy to all individuals in a just and impartial manner, while also considering the long-term viability of natural resources. The concept of energy sovereignty in this legislation highlights the state's obligation to not only supply energy, but also to ensure that its administration is carried out in the best interest of the general population.

In addition, energy sovereignty also includes elements of innovation and the advancement of novel and sustainable energy sources. To address the difficulties posed by climate change and the depletion of fossil fuel supplies, nations must cultivate alternative energy sources that are both ecologically sound and capable of being maintained over time. Law Number 30 of 2007 establishes the framework for the government to encourage the adoption of innovative and renewable energy sources as a key component of the national energy security policy. This demonstrates a forward-thinking perspective that not only prioritises present energy requirements but also considers the concerns of future generations. Indonesia must develop a well-defined plan to decrease reliance on fossil fuels and exploit its abundant renewable energy resources.

Within the framework of community welfare, energy sovereignty entails the responsibility of the government to guarantee equitable access to energy resources for all segments of society. Ensuring access to energy that is both affordable and fair is a crucial aspect of achieving energy sovereignty. The societal welfare is profoundly impacted by the accessibility of ample energy to fulfil fundamental requirements, such as illumination, transportation, and industrial operations. The government is tasked with the responsibility of not only ensuring the availability of energy, but also reducing the gaps in energy access between different regions, particularly in rural and outlying areas of Indonesia that frequently face challenges in obtaining sufficient energy supplies.

Energy sovereignty refers to a country's ability to independently and effectively manage its energy resources in a just and sustainable manner. The government, acting as the custodian of the people, should develop policies that address both immediate energy requirements and the long-term viability of energy supplies. Energy sovereignty encompasses not only the technical administration of energy, but also plays a crucial role in national development by addressing social, economic, and environmental dimensions. A nation that can successfully attain energy sovereignty will possess a formidable stance in confronting worldwide concerns while concurrently improving the well-being of its citizens in a sustainable manner.

RESEARCH METHOD(S)

This study uses the normative legal research approach to thoroughly examine the legal restrictions pertaining to the advancement of new and renewable energy in Indonesia, along with the obstacles encountered throughout its execution. This study commences by identifying and gathering diverse pertinent legal sources, encompassing statutes, governmental regulations, policies, and other legal instruments associated with the renewable energy industry. This procedure entails analysing the Draft Law on New and Renewable Energy (RUU EBT), its accompanying regulations, and policies pertaining to the advancement and utilisation of renewable energy. This research seeks to identify and assess the current legal concepts, norms, and frameworks, as well as their practical application.

In addition, the normative legal study approach includes examining pertinent doctrines and legal theories to comprehend the legal dynamics associated with the advancement of new and renewable energy. This study examines the functioning of current regulations in relation to their execution and the difficulties encountered. It also evaluates the efficacy and uniformity of legislative policies in attaining renewable energy objectives. This technique aims to identify gaps in legislation that may impede implementation and provide recommendations for legal policy adjustments to enable more efficient and sustainable renewable energy development in Indonesia.

FINDINGS AND DUSCUSSION

Indonesia has faced numerous significant issues due to its reliance on fossil energy sources. An eminent obstacle faced by Indonesia is the declining accessibility of crude oil, compelling the country to rely on oil imports in order to fulfil its energy requirements. The importation of this oil not only affects the nation's energy security but also makes a substantial

contribution to the country's trade deficit. The escalating need for energy, in accordance with population and economic expansion, poses a substantial threat to long-term economic stability due to reliance on fossil fuels. Indonesia's reliance on imported oil renders the country susceptible to swings in global oil prices, hence impacting domestic energy prices and placing a strain on the national budget.

Despite the presence of ample renewable energy resources in Indonesia, including geothermal energy, biodiesel, solar energy, wind, and hydropower, these valuable assets have not been fully exploited. The progress of renewable energy in Indonesia is impeded by various issues, one of which is the prevailing reliance on fossil energy sources for domestic energy requirements. The existing energy infrastructure is insufficient to facilitate the shift towards renewable energy, due to constraints in investment and technology required to optimise the utilisation of new and renewable energy sources (EBT). This presents a quandary for nations, since there is a pressing necessity to transition towards more environmentally friendly energy sources, yet there persists a significant reliance on fossil fuels.

In Indonesia, meeting the country's energy requirements should be approached through the concept of energy transition. This involves transitioning from the utilisation of fossil fuels, which have negative environmental impacts, to renewable energy sources that are more ecologically sound and can be sustained over time. The energy transition at hand is a formidable undertaking, given the magnitude of the necessary changes to diminish reliance on fossil fuels and embrace renewable energy technology. Nevertheless, undertaking this step is essential for Indonesia to diminish the adverse consequences of greenhouse gas emissions and alleviate the progressively apparent hazards of climate change. In order to expedite and optimise the energy transition, it is imperative to implement policies that foster innovation and facilitate the establishment of renewable energy infrastructure.

Furthermore, the advancement of renewable energy not only leads to improved environmental outcomes but also holds significant promise in enhancing Indonesia's energy independence. Indonesia may enhance its energy independence by effectively harnessing renewable energy sources, hence reducing reliance on energy imports. Not only does this have a beneficial effect on economic stability, but it also enhances Indonesia's position in confronting geopolitical difficulties associated with global trade and energy distribution. The country can achieve energy independence by advancing renewable energy technologies, which will grant it the autonomy to establish its own energy strategies, free from the uncertainties of the global market.

Amidst the pressing necessity for this energy transformation, the Indonesian government must strategically expedite the advancement of renewable energy. The recommended measures encompass investing in renewable energy technologies, expanding the production capacity of renewable energy, and fortifying legislation that promote the utilisation of ecologically sustainable energy. Furthermore, the active involvement of the private sector and the society is crucial in expediting this shift. Integrating renewable energy into the national energy resilience system will not only save the environment but also provide fresh prospects in the economic and technological domains, while offering enduring answers to Indonesia's energy predicaments.

New energy refers to a form of energy that arises from scientific research and technical advancements, distinct from both fossil energy and renewable energy sources. This energy originates from advancements in scientific and technological fields, with the objective of discovering alternative energy sources that are characterised by higher efficiency, sustainability, and environmental friendliness. Some examples of novel energy sources are nuclear energy, plasma energy generated using magnetohydrodynamic technology, and energy produced by fuel cells. All three are outcomes of technology intervention that facilitate the exploration and utilisation of energy resources that were previously inaccessible. This emerging energy source is regarded as a crucial component of the future, especially within the framework of the worldwide shift towards alternative energy (Abdulkadir, Ariono, 2011).

Nuclear energy is a type of new energy that is produced through the process of nuclear fission. During this process, atoms are split to generate heat energy, which is subsequently transformed into electricity. The utilisation of nuclear energy is frequently a subject of dispute due to the inherent safety hazards and environmental consequences it entails, particularly with regards to the management of radioactive waste. However, nuclear energy possesses significant potential to function as an exceptionally efficient and dependable energy source, surpassing the production capability of fossil fuels. This technology is being further developed to decrease current dangers while improving its efficiency and sustainability as an energy alternative.

Plasma energy utilising magnetohydrodynamic (MHD) technology employs plasma as a medium for electricity generation. Plasma is a state of matter in which gas is ionised, meaning it contains charged particles. When plasma is subjected to a magnetic field, it can produce energy. This technology is currently in the developmental phase; however, it possesses significant potential to revolutionise the process of power generation by eliminating the need for dependence on finite natural resources while ensuring high efficiency. MHD technology

integrates principles of contemporary physics to generate energy with reduced carbon emissions, offering a promising option for sustainable energy requirements.

Furthermore, fuel cells belong to the realm of emerging energy technologies. They operate by harnessing a chemical interaction between hydrogen and oxygen to produce electrical energy. This technique is highly effective and can be applied in a wide range of applications, including transportation and electricity production. Fuel cells are devoid of direct greenhouse gas emissions, rendering them widely regarded as an environmentally sustainable energy source. Despite the need for substantial investment to expand production on a broader scale, the rapid advancements in fuel cell technology suggest that hydrogen-based new energy has the potential to play a crucial role in the process of decarbonising the energy industry.

In the global endeavour to move away from relying on fossil fuels, which are becoming scarce and harmful to the environment, alternative energy sources play a crucial role. The pursuit of more efficient and sustainable energy solutions through technical intervention is the driving force behind the development of new energy. Advancements in this domain, such as nuclear energy, MHD plasma, and fuel cells, provide optimism for a more environmentally friendly and self-sufficient energy future. Nevertheless, in order to fully exploit the capabilities of emerging energy sources, it is imperative to establish robust collaboration among the government, the industrial sector, and society. This collaboration will expedite the integration of technology and guarantee widespread and sustainable access to new energy sources.

The notion of new energy is clearly defined in Law Number 30 of 2007 on Energy. According to Article 1, paragraph (5), new energy refers to energy obtained from recently identified or created energy sources using the most up-to-date technologies. These novel energy sources encompass energy produced by newly developed technology advancements, regardless of whether they are derived from renewable or non-renewable sources. This definition includes many types of energy that are not classified as conventional fossil fuels but have significant potential to be developed as a more environmentally friendly alternative (Undang-Undang Nomor 30 Tahun 2007 tentang Energi pasal 1 ayat (4)).

In addition, the law specifies that new energy sources encompass many specific types, including nuclear, hydrogen, coal bed methane, liquefied coal, and gasified coal. Nuclear energy is widely recognised as an efficient energy source, despite its controversial nature stemming from concerns around radiation and waste. Hydrogen is seen as a promising energy source for future utilisation due to its environmentally sustainable characteristics. Both kinds of energy possess renewable attributes, but necessitating intricate and costly technologies for extensive adoption.

However, several emerging energy sources, such as coal bed methane and liquefied or gasified coal, are derived from non-renewable resources, specifically coal. Nevertheless, by technical intervention, coal can be converted into a more environmentally friendly and efficient source of energy in comparison to the direct combustion of coal as a fuel. The objective of this change is to employ Indonesia's plentiful natural resources in a more conscientious manner, despite the difficulties it presents in terms of carbon emissions and lasting environmental consequences.

The categorisation of novel energy in Law Number 30 of 2007 exemplifies the Indonesian government's endeavours to cultivate alternative energy resources in order to diminish reliance on fossil fuels. The advancement of this novel energy source is vital in addressing global energy concerns, particularly in the shift towards a more sustainable and eco-friendly energy system. Nevertheless, the adoption of these emerging energy sources necessitates major investments in technology and infrastructure, together with the implementation of policies that foster innovation and promote additional research, in order to have a significant effect on national energy resilience.

Indonesia possesses significant potential for hydropower generation, mostly due to its rugged and mountainous terrain, as well as the abundance of rivers that traverse different parts of the country. This characteristic renders hydropower as one of the dependable sources of renewable energy. Water energy can be used to generate electricity using several sorts of power plants, both large and small, by leveraging river flows and topographic elevation.

The estimated total potential hydropower in Indonesia is 94.4 megawatts (MW), with a significant portion of it being capable of being transformed into energy. Out of this total, around 75.09 MW can be harnessed using Hydroelectric Power Plants (PLTA), which are typically constructed in areas with substantial water resources. Furthermore, Microhydro Power Plants (PLTMH) also have a significant impact, with a capacity of around 19.34 MW. PLTMH is commonly used in rural regions that lack access to the national electrical grid, hence offering a method for achieving fair and equal energy distribution (Kalpikajati, Sahid Yudhakusuma, and Sapto Hermawan, 2022).

Exploiting the hydropower potential is crucial for Indonesia's endeavours to bolster energy self-sufficiency and diminish reliance on fossil fuel sources. Indonesia can enhance its potential for eco-friendly renewable energy generation by optimising the use of both large-scale and small-scale hydropower plants. In addition, the utilisation of hydropower contributes to environmental sustainability due to its lack of greenhouse gas emissions, rendering it a suitable option for moving towards a more sustainable form of green energy.

Wind energy is a promising renewable energy source in Indonesia, providing an eco-friendly option for generating power. Indonesia's wind energy capacity is projected to be approximately 978 megawatts (MW), with Sidrap and Jeneponto being the primary areas with the most potential. Both regions are renowned for their optimal wind conditions that are conducive to the efficient operation of Wind Power Plants (WPP). These plants utilise the wind's energy to generate electricity.

Aside from Sidrap and Jeneponto, numerous other places in Indonesia exhibit substantial potential for the development of wind energy, such as Sukabumi, Garut, Lebak, Pandeglang, and Lombok. Each of these places possesses wind attributes that can be utilised for the production of electricity. The significant potential of wind energy suggests that it can play a crucial role in Indonesia's aim to diversify its energy sources, particularly in the context of increasing the share of renewable energy in the country's overall energy supply.

Despite the significant wind energy potential in Indonesia, its management and utilisation remain suboptimal. Challenges encountered encompass inadequate infrastructure, substantial investment requirements, and a dearth of legislation conducive to the holistic advancement of wind energy. In order to fully exploit this potential, it is required to take strategic measures to improve the growth and administration of wind energy. These measures include bolstering policy backing, allocating resources to technological advancements, and constructing the essential infrastructure to facilitate the smooth functioning of wind power facilities.

Government Regulation Number 79 of 2014, also known as the National Energy Policy (KEN), sets out a comprehensive framework for the regulation and management of energy in Indonesia until 2050. This rule encompasses a range of fundamental factors that are vital for reaching national energy goals. The areas encompassed are the availability of energy, the priorities for energy development, the use of national energy resources, and the management of national energy reserves. The primary objectives of these policies are to establish a well-defined strategy for the provision and administration of Indonesia's current energy resources, while also determining the key areas of focus for achieving sustainable development.

Aside from the primary policies, the National Energy Policy (KEN) also encompasses supplementary policies that address many crucial sectors to facilitate the execution of the national energy plan. The supporting policies include measures to conserve energy and resources, promote energy diversification, and prioritise environmental protection and safety. Furthermore, the community places significant emphasis on pricing, subsidies, and energy incentives to guarantee that energy remains affordable for its residents. KEN also highlighted the significance of enhancing infrastructure development and ensuring energy accessibility,

while also advocating for the advancement of research, development, and use of cutting-edge energy technologies. In addition to supportive policies, institutional structures and finance are crucial components in establishing a favourable climate for the growth of the energy sector.

The National Energy Policy (KEN) intends to maximise the provision and utilisation of New and Renewable Energy (EBT) over its implementation period from 2014 to 2050. An effective approach to accomplish this objective is to set specific benchmarks for the primary energy composition, aiming for a minimum threshold of 23% by 2025 and 31% by 2050. These aims aim to increase the role of EBT (Energy from Biomass and Waste) in the national energy mix, decrease reliance on fossil energy sources, and expedite the shift towards more environmentally-friendly energy.

KEN places a high priority on the advancement of renewable energy based on research. This is achieved by promoting increased collaboration and coordination among research institutions, universities, businesses, and government. This relationship is crucial for expediting the acquisition and application of cutting-edge renewable energy technologies. By engaging several stakeholders, it is anticipated that the advancement of energy technology can be expedited and enhanced, resulting in a more substantial and beneficial influence on the domestic energy industry.

In essence, the purpose of the KEN is to offer comprehensive strategic direction in the management and advancement of Indonesia's energy industry. This policy is designed to address both present energy requirements and future energy needs, with a particular emphasis on sustainability and minimising environmental harm. To successfully implement the National Energy Policy, it is essential for all stakeholders, such as the government, corporate sector, and community, to work together and show dedication. This collaboration is necessary to ensure that the national energy goals are effectively met.

Overall, the provisions in the National Energy Policy (KEN) have successfully adhered to the concept of the energy trilemma, which encompasses energy security, energy justice, and environmental sustainability. Within the framework of energy security, KEN prioritises crucial policies encompassing the accessibility of energy and the maintenance of national energy reserves. The purpose of this policy is to guarantee the long-term satisfaction of national energy requirements, with a specific focus on maintaining a stable energy supply and effectively managing current energy reserves. The objective is to uphold the nation's energy security and prevent an undue reliance on external energy sources.

The principle of energy equality is seen in crucial policies concerning energy development priorities, which emphasise the equal availability of energy. The National

electricity Policy prioritises the equitable distribution of electricity throughout all regions of Indonesia, especially distant or neglected places. The National Energy Policy seeks to prioritise fair and equal access to energy, with the goal of ensuring that all members of society may benefit from available energy sources. This will help reduce inequalities in energy access and enhance the overall well-being of the community (Artami, Rina Juliet, 2023).

Environmental sustainability is attained by implementing crucial policies that prioritise the shift from utilising fossil fuels to adopting New and Renewable Energy (EBT). The National Energy Policy promotes the exploitation of domestic energy resources, with an emphasis on mitigating the environmental consequences associated with the consumption of fossil fuels. The National Energy Policy seeks to achieve a reduction in greenhouse gas emissions and other adverse environmental effects, promote ecological sustainability, and address climate change by transitioning to EBT. This strategy demonstrates a dedication to upholding an equilibrium between energy requirements and safeguarding the environment.

The Draft Law on New and Renewable Energy (RUU EBT) in Indonesia necessitates substantial enhancements to become a genuinely all-encompassing legislation that effectively tackles the trilemma of energy security, energy access, and environmental sustainability. These three aspects are crucial elements in sustainable energy management and should be extensively examined in all energy regulations. The current Renewable Energy Bill prioritises energy resilience and the availability of renewable energy, however it fails to adequately address the concerns of accessibility and cost of electricity for the broader community.

Companies that embrace the concept of renewable energy must persist in doing their company with robust risk management standards to prevent potential legal complications. Companies must prioritise compliance with all relevant rules and regulatory standards as they concentrate on the advancement of renewable energy sources. Implementing a robust risk management strategy will enable the early detection and resolution of possible legal concerns, so assuring adherence to regulations and mitigating any adverse consequences that may result from their activities. This entails overseeing regulatory changes, doing internal audits, and ensuring that all operational components adhere to legal standards in order to sustain seamless operations and uphold the company's reputation (Susanto, Deny, 2021).

The Renewable Energy Bill emphasises the involvement of the corporate sector in the advancement of renewable energy. However, it does not provide a well-defined plan to guarantee that renewable energy is physically accessible and affordable for the general population. The energy pricing part of this law has not yet provided a specific strategy for making renewable energy accessible to the public at an affordable price. This highlights a lack

in the ability to seamlessly incorporate renewable energy into the everyday lives of the community and tackle inequalities in energy availability.

Furthermore, the Renewable Energy Bill encounters challenges about unclear priorities pertaining to the advancement of renewable energy. While intended to promote renewable energy, this measure has provisions that permit the utilisation of fossil fuels, potentially diluting the emphasis on renewable energy advancement. Article 40 of this measure fails to adequately distinguish between the administration of renewable energy sources and new energy, which encompasses the handling of fossil energy. This has the potential to generate uncertainty and ambiguity in the execution of renewable energy policy.

In order to enhance its efficacy, the Renewable Energy Bill should enhance certain crucial elements, such as enhancing the synergy between renewable energy and pricing policies, as well as improving accessibility. Policies should be formulated to guarantee widespread availability and affordability of renewable energy across all societal groups, while also outlining specific strategies to tackle inequalities in energy accessibility. This include the creation of subsidy programs or incentives aimed at facilitating the affordability of renewable energy for low-income communities.

In order to optimise the effectiveness of the Renewable Energy Bill (RUU EBT), it is imperative to make amendments that eliminate any ambiguities and guarantee that the policies enacted solely promote the advancement of renewable energy, while completely excluding the utilisation of fossil fuels. The Renewable Energy Bill can establish a comprehensive framework to tackle energy difficulties in Indonesia by adopting a holistic and integrated approach. This framework will prioritise energy resilience, energy access, and environmental sustainability.

CONCLUSION AND RECOMMENDATION

Indonesia must implement significant reforms in the renewable energy industry and adopt decisive measures in budgeting and managing renewable energy in order to expedite the shift towards clean energy. Sustained endeavours are required in the examination and investigation to create renewable energy commodities that are both ecologically sound and entail negligible hazards. The government must ensure that the energy sector institutions or bodies collaborate effectively in developing and executing policies that promote the use of renewable energy. At present, the incentives for renewable energy remain significantly weaker in comparison to the subsidies allocated to fossil fuels. Successfully addressing these obstacles is essential for attaining national energy autonomy and robustness.

The National Energy Policy (KEN) incorporates the energy trilemma paradigm, including energy security, energy justice, and environmental sustainability, to guide the course of the national energy policy. Nevertheless, the attainment of the objectives for the supply and consumption of primary and final energy is still well below the anticipated benchmarks. In order to enhance this situation, Indonesia should establish a more targeted industrialisation strategy by fostering the growth of downstream sectors. This will enhance the resilience of the domestic energy industry and promote long-term, environmentally-friendly economic development.

Indonesia's primary challenge is the lack of a single law that governs the organised and thorough administration of renewable energy, from a legal perspective. Presently, the administration and the House of Representatives are developing the Draft Law on New and Renewable Energy (EBT Bill) as a means to tackle these concerns. Nevertheless, the current version of the EBT Bill has not effectively addressed the societal issues, such as the failure to address the challenges posed by the energy trilemma and the absence of prioritisation in the administration of renewable energy sources.

The Renewable Energy Bill requires revision in order to rectify these deficiencies and guarantee that the resultant policies can successfully confront the energy concerns at hand. This redesign should encompass the development of unambiguous priorities for the management of renewable energy and the execution of more cohesive strategies to facilitate the transition towards clean energy. It is crucial to ensure that the Renewable Energy Bill adequately addresses the requirements of the sector while also satisfying the wider public interest in terms of the availability and cost-effectiveness of renewable energy.

Indonesia's accomplishments in achieving energy independence and resilience necessitate a thorough and synchronised approach encompassing policy, administration, and the development of energy technology. Through the active engagement of all parties involved and the prioritisation of sustainable solutions, Indonesia may progress towards a more environmentally friendly, equitable, and efficient energy future.

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