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Development Taman Surya Nusantara to increase new and renewable energy in Indonesia

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Abstract
Purpose: The aim of this research is to achieve sustainable development by reorienting the use of energy from fossil energy to new and renewable energy through the massive and consistent use of solar energy in Indonesia.
Research Methodology: This study employed a normative empirical method with a descriptive analysis approach. Secondary data were acquired through meticulous literature review and subjected to qualitative analysis. The outcomes of the analysis serve as the cornerstone for accurate conclusions within the research (Soerjono & Mamudji, 2007).
Results: The research results show that the development of Taman Surya Nusantara is instrumental, extensive, and comprehensive, to be carried out as a key to facing the challenges of the global energy crisis, as well as a strategic step to achieve sustainable development goals in Indonesia.
Limitations: The construction of Taman Surya Nusantara will receive a positive response from all parties, with an orientation towards achieving the ideal use of solar energy for the realization of sustainable development.
Contributions: This research explains that developments in science and technology are signs of the need for reformulation of the use of solar energy in Indonesia. In such conditions, it has implications for the phenomenon of "sustainable development goals," meaning that the dimensions of life are required to be adaptive to conditions of sustainable development in line with the essence of welcoming Golden Indonesia 2045.
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1. Introduction

Energy, based on Article 1 number 1 of Law Number 30 of the Year 2007 concerning Energy (hereinafter referred to as the Energy Law), is defined as the ability to do work that can be in the form of heat, light, mechanics, chemistry, and electromagnetics. Energy, or the ability to work, is a very important component in everyday life. Every human activity, ranging from cooking, using gadgets, and watching television, requires energy. Sufficient technological development and rapid growth also mean that the need for energy is increasing. This makes energy a primary energy requirement for humans.

The industrial revolution that occurred in the 1900s brought changes to energy sources in various parts of the world that previously used more biomass and turned into fossils, including Indonesia. Until now, energy use in Indonesia is still dominated by fossil fuels, such as oil, coal, and natural gas. The Minister of Energy and Mineral Resources Indonesia, Arifin Tasrif, said that until 2020, Indonesia will have a 70.96 Gigawatt energy source capacity. Of this amount of energy, 35.36 percent comes from coal, 34.38 percent from oil earth, 19.36 percent from natural gas, and only 10.9 percent comes from renewable

energy. Based on these data it can be seen that the use of Fossil energy still dominates far compared to energy use newly updated. This fact needs attention, because of fossil energy In fact, it is energy that is not environmentally friendly, its use can have negative impacts on the environment, one of which is the occurrence of climate change.

Energy plays an important role in national development. Energy can achieve a balance of sustainable development goals, which include social, economic, and environmental aspects. Energy also plays an important role in encouraging the development of other sectors, particularly the industrial sector. The level of energy consumption is also an indicator of a country's progress in development(EBTKE, 2021). This is because increased economic growth, social welfare, and population growth are directly linked to rapid energy consumption. In fact, the rapid pace of energy consumption has implications for efforts to increase energy consumption efficiency.

The increasingly complex challenges of the times are signals that require all sectors of life to adapt to every change. This is the basis for the importance of utilizing new and renewable energy (EBT) in the essence of sustainable development (sustainable development goals). In practice, increasing population growth has resulted in an increase in energy demand, which is dominated by fossil-based energy sources. However, the availability of these energy sources is very limited, and their use can even trigger environmental degradation, such as the greenhouse gas (GHG) effect (Weiss, Pareschi, Georges, & Boulouchos, 2021).

Fossil energy sources are non-renewable, considering that their reserves are limited and experience depletion. This situation results in vulnerabilities in national energy security. In addition, this vulnerability is influenced by high energy demands and dependence on the use of fossil fuels, which continues to increase. Thus, as long as new energy reserves and nonconventional technologies are not discovered during exploration, a situation of high inequality between national energy supply and demand will continue to occur (Figure 1) (Sutijastoto, 2020).

Gambar 1. Situasi Kebutuhan Energi di Indonesia

New energy sources can be defined as energy sources that can be produced by new technologies, such as renewable or non-renewable energy sources, including nuclear, hydrogen, coal bed methane, liquefied coal, and gasified coal. Meanwhile, renewable energy sources can be interpreted as energy sources that are produced from sustainable energy resources if managed properly, including geothermal heat, wind, bioenergy, sunlight, water flows, and waterfalls, as well as movements and temperature differences in the sea layers (Rodrikson Alpian Medlimo, Septania, Hapsari, Zuleika, & Agustin, 2022).

Optimizing the utilization of the large potential of NRE resources is also in line with the mandate of national development goals, as confirmed in the Preamble to the 1945 Constitution of the Republic of Indonesia (UUD 1945), in the context of advancing general welfare. In addition, this mandate is in line with the meaning of Article 33, paragraph (3) of the 1945 Constitution, which essentially states that the earth, water, and natural resources contained therein are controlled by the state and used for the greatest prosperity of the people (Rodrikson Alasan Medlimo, 2022).

Green legislation is a concept derived from the "green" concept. The main essence of the green concept in the legal aspect is implementing policies that pay attention to the sustainability of the environment. In this case, green legislation can be interpreted as an effort to improve the environment through statutory regulation. Article 28H paragraph (1), which states that every individual has the right to a good and healthy living environment, and Article 33 paragraph (4) of the 1945 Constitution of the Republic of Indonesia, which mentions environmental aspects as one of the principles. The national economy is the basis of the obligations and responsibilities of the government to produce green-based legal product legislation. The two articles in the Constitution emphasize the existence of the concept of green constitution adopted by Indonesia. This means that everything legal products must also pay attention to their environmental aspects.

Green legislation should be the basis for its formation and The EBT Bill, one of the objectives of which is to address climate change. This is in line with the essence of green legislation, which not only puts forward mere "labels," but instead wants "processes" to be pro-environment can be the orientation of a regulation legislation. This is in line with Matthias Finger's opinion, which suggests that the environmental crisis can be eradicated by road making more pro-environmental policies as well as creating a technology that is different from the existing one. Green legislation will also guarantee environmental quality in every industrial development activity and other activities to ensure safety and public health.

In response to this situation, strategic steps are needed through the construction of Taman Surya Nusantara, considering that the use of EBT in the solar sector has only reached 11.2 percent. This amount has reached only 23 percent of the energy transformation target set for 2025. However, the potential for EBT reserves utilized to date has only reached 2.5 percent or around 10 Gigawatts (GW) of the total 400 GW (Parinduri & Parinduri, 2020).

This paradigm requires all parties, especially the government, to build Taman Surya Nusantara as a source of NRE, which is based on several factors, such as the time period for infrastructure development and implementation of its use, which is faster than other NRE, and has abundant quantities. However, solar energy is one of the Natural Resources (NRES) whose utilization has not been maximized, considering that one of the main obstacles is in terms of financing (Hossain, Faruque, Sunny, Mohammad, & Nawar, 2020).

Referring to this, collaboration between various parties is needed, such as academics, business people, government, the general public, and the mass media, in responding to these obstacles so that solar energy can be a solution in the midst of the energy crisis that occurred because of the never-ending war between Russia and Ukraine, as well as a step the government is concrete in achieving sustainable development goals, especially the point of easy access to clean energy at affordable costs. In this regard, the author phenomenologically initiated the importance of developing Taman Surya Nusantara as an effort to increase new and renewable energy in Indonesia.

1.1. Problem Formulation

1. What is the urgency of developing Taman Surya Nusantara as a strategy to increase the new and renewable energy Sources in Indonesia
2. What are the opportunities and challenges for developing Taman Surya Nusantara in Indonesia?
3. How do regulations for the use of solar energy differ worldwide?
4. What strategic steps can be taken to optimize solar energy use in Indonesia?

1.2. Purpose of Writing

The aim of this research is to achieve sustainable development by reorienting the use of energy from fossil energy to new and renewable energy through the massive and consistent use of solar energy in Indonesia. This is because the potential for solar energy to pass through reflected rays or sunlight in Indonesia is very high. In addition, the use of solar energy is also oriented towards meeting the need for

new and renewable energy in the future, considering that there is currently an energy crisis in the world due to the never-ending war between Russia and Ukraine.

2. Research Methodology

This study employs a normative empirical method using a descriptive analysis approach. Secondary data were acquired through meticulous literature review and subjected to qualitative analysis. Rigorous literature selection ensured data validity. The outcomes of the analysis serve as a cornerstone for accurate conclusions within the research (Marzuki, 2013).

3. Results and discussions

3.1. The Urgency of the Development Taman Surya Nusantara in Indonesia

Regulations related to the environment in Indonesia include the space in which the Republic of Indonesia exercises sovereignty, sovereign rights, and jurisdiction. In this case, the Indonesian environment is a natural condition with a strategic role of high value as a place where the Indonesian people and nation carry out national and state life in all aspects. Environmental management aims to develop a system with integration as its primary characteristic (Handayani, Arifin, & Virdaus, 2019).

The development of substances related to the environment in the 1945 Constitution has become a discourse on the development of constitutional content in various countries (Akib & Sumarja, 2019). This shows the development of legal political forms to add environmental material to the constitution. This is based on the conflict between economic and ecological interests. Economic interests discuss how humans can achieve prosperity by managing the availability of limited resources for the needs of human life (Haryadi, 2017).

When carrying out these methods, ecological interests will always be the most impacted. This is because ecological interests suggest that economic interests should not only make welfare the main goal, but should also pay attention to environmental sustainability and the availability of resources for the benefit of present and future life.

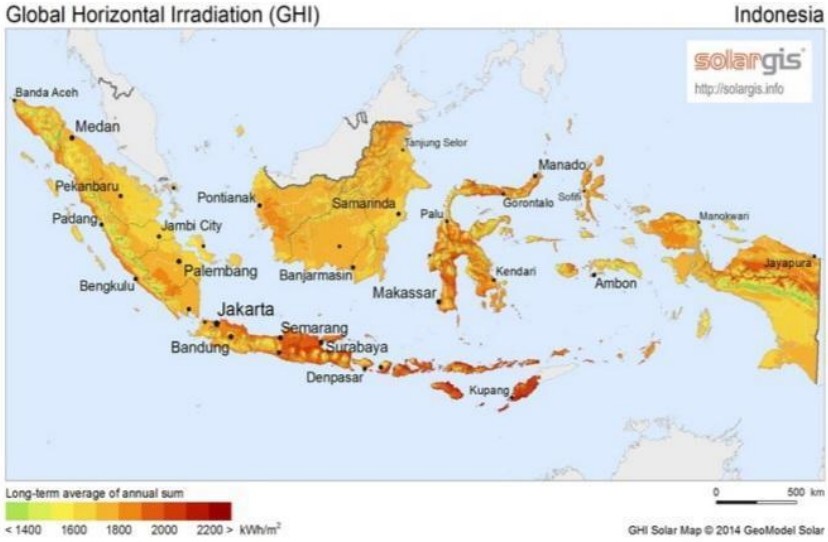
This context is closely related to the concept of environmental justice. Environmental justice is a response to the emergence of various symptoms of natural destruction, especially after the emergence of the industrial revolution. This concept focuses on the emergence of injustice in the form of damage to the quality of the environment as a result of excessive exploitation of nature.

This concept starts from the view that the current generation has a stronger position than future generations. In fact, future generations have the same right to obtain a good quality environment. As John Rawls puts it, everyone in the present and future has an equal and indeterminate claim to a fully adequate set of essential and non-substitutable ecosystem services compatible with the same set of services for all.

Solar energy is the radiation produced by the nuclear fusion reactions of the sun. The sun provides a supply of heat and light that the Earth receives to meet the needs of living things. Solar energy can be utilized as an energy source in two ways: thermal and photovoltaic methods (Assiddiq, 2018). The thermal method works with the help of sunlight to heat fluids that can be used to generate electricity. Photovoltaics is a development framework that allows solar radiation to touch the surface of a semiconductor, which ultimately results in electron jumps that trigger an electric current.

The utilization of solar energy using photovoltaic (PV) techniques has been ongoing for a long time. The International Renewable Energy Agency (IRENA), in its study, provides an overview of the history of the development of Solar Parks in various parts of the world as a new and renewable energy source that has been carried out since 1963 by elaborating on the use of thermal and photovoltaics. As of 2018, 480 GW of Solar Parks have been installed worldwide, and 4.5 million jobs have been created in the solar energy sector. With these fantastic numbers, solar energy exploration must be conducted appropriately and wisely for the common good (IRENA, 2019).

Furthermore, the use of sunlight, which can be converted into heat energy or electrical energy, is not only free from environmental damage or pollution, but also provides an exploration process that is obtained free of charge and continuously. This is, of course, very reasonable, considering that the quantity of solar energy on Earth is 170 trillion kilowatt. Based on this amount, 30% is reflected in space, 47% is converted into heat at low temperatures and radiated back into space, and 23% is used for absorption or evaporation of energy in the natural range of plants (Pudjanarsa & Nursuhud, 2013).



Sumber: Energi Surya Untuk Kedaulatan Energi Listrik Indonesia, presentasi PT.SEI Bandung pada diskusi sehari di PUU Badan Keahlian DPR RI Jakarta.

Figure 2. Solar Energy Potential Indonesia

On the other hand, solar energy in Indonesia is widely used for household appliances, such as water heaters. The use in this field is due to the fact that the heat produced is not too high (only up to 90 degrees Celsius). Therefore, solar energy is widely used for drying purposes in agricultural food commodities, fisheries, plantations, and small industries. Solar energy is also believed to help desalination in coastal areas, although until now, the technology has not been implemented optimally. Thus, the construction of Taman Surya Nusantara is fundamental for realizing sustainable development and securing energy for future generations.

3.2. Opportunities and Challenges for the Development of Surya Nusantara Park in Indonesia

In fact, the development of Taman Surya Nusantara in Indonesia emphasizes the development of solar energy with a permanent system, which cannot be overexploited and is environmentally friendly. These conditions provide opportunities for the development of the solar energy industry, which includes the potential to increase added value for the industry, increase the absorption of human resources as labor, support the acceleration of national economic development (multiplier effects), have export prospects, encourage opportunities to expand industrial or business scale, encourage the creation of autonomy in energy sources, especially in the regions, and can replace the role of fossil energy as a conventional source directly (Zulkifli, 2018).

Apart from the opportunities that exist, there are challenges in developing Taman Surya Nusantara in Indonesia, such as low efficiency and effectiveness, lack of use of artificial intelligence, policy inconsistencies that result in market uncertainty, the absence of specific regulations related to energy integration and distribution, and administration and licensing processes that still take a long time. In this regard, it is necessary to change various Dutch heritage rules that are outdated and unfair (absolute

and unjust), are no longer relevant to current developments, and are even static (outmoded and unreal) and not responsive to current social needs.

Responding to these various opportunities and challenges requires synergy from various parties, in this case, by applying the pentahelix concept as a synergy between the government and various actors, such as academics, business people (business industry), the general public, and the mass media, to realize a new and renewable energy mix, especially related to the state's responsibility in fulfilling the welfare of the people, in line with the welfare state theory (welvaartsstaat) adopted by Indonesia (Praswati, 2017).

Pentahelix collaboration focuses on innovation that results from interactions involving various types of actors. Each actor moves according to its institutional function in society. The main actors who support industrial development are academics (scholars), government, business industry, the general public, and mass media (Asyhari & Wasitowati, 2015). With the synergy between the five main actors, the development of Taman Surya Nusantara in an effort to increase the mix of new and renewable energy becomes something that is very possible to implement.

The direction of pentahelix terminology is the creation of sustainable development (sustainable development goals) based on science and innovation. This is a reference for developing the solar energy potential through knowledge capital. If this is successfully achieved, a consensus space will be formed, namely, an agreement space that focuses on implementing commitments on something based on innovation space, an approach that is key to creating business and investment centers, and managing the application of solar energy in Indonesia.

In addition, the pentahelix model correlates with creative industry. The creative industry is the development of a pillar of the creative economy that has the authenticity of individual creativity, skills, and talent, which has the potential to create prosperity and jobs by exploring intellectual abilities elaborated with a wealth of natural resources.

The United Nations Conference on Trade and Development (UNCTAD) provides a general description that the creative industry is a cycle of creation, production, and distribution of goods and services, using human resource competencies elaborated with natural resource wealth as the main input. This indicates that the creative industry is a knowledge-based activity, focuses on value but is not limited to intellectual ability, and has the potential to generate income from the business sector, in this case, the national creative industry (Khan, 2021).

In this regard, it can be concluded that the creative industry is basically an industry based on the use of natural resources in collaboration with human resource competence as an effort to increase new and renewable energy in Indonesia. Therefore, the development of the solar energy industry within the pentahelix framework can be implemented on a massive scale in Indonesia as a concrete step for the government to realize the welfare of its people, especially in welcoming golden Indonesia in 2045.

The Pentahelix Innovation Theory extensively regulates the mechanisms of innovation, economic growth, and productivity (Izzati & Wilopo, 2018). The application of this innovation focuses on developing the production sector and high technology sector, and integrating innovation, knowledge, and final output of goods and services based on the holistic role of civil society. In this context, the opportunity to develop the solar energy industry is open if pentahelix and sustainable development goals (SDGs) support each other within the framework of empowering sustainable creative industries (Nuraini & Nasri, 2017). Thus, the development of the solar energy industry must have a framework that is prepared systematically, coherently, and coherently.

3.3. Comparative Study: Regulation of Solar Energy Utilization in the World

The author aims to illustrate the legal regulations regarding the use of solar energy, which have been regulated by various countries in the world. First, there are many countries in Europe. Regulations

regarding the use of solar energy in the European Union have been implemented as a source of NRE in the European Union Charter of Fundamental Rights (Schwab, 2016). The European Union has statutory regulations regarding the use of solar energy, namely the Paris Agreement on the United Nations Framework on Climate Change (UNFCCC). This regulation is a response to climate change, which has resulted in an energy crisis. In addition, to support the protection of sustainable development, the European Union established The Police Directive as a supervisory and protection institution for the solar energy industry, which has the authority to supervise and provide sanctions for violations related to excessive exploitation of solar energy with the aim of profit orientation.

The United States and the United States do not have specific regulations regarding the use of solar energy. The United States began implementing legal regulations for the use of solar energy in 1974 by establishing the US Privacy Law. Legal protection for the use of solar energy is regulated comprehensively with a preventive approach to the misuse of solar energy, both in the federal state and the states. Responding to technological developments in the current era of disruption, there is new legislation regarding the use of solar energy, namely, the California Consumer Privacy Law (CCPA) 2018, which took effect in January 2020 (Moriarty & Honnery, 2020). The implementation of these new regulations emphasizes the right to explore solar energy appropriately by corporations in California, with an emphasis on sustainable development.

Similar to European countries and the United States, Hong Kong also comprehensively regulates the issue of utilizing solar energy through the Personal Data Privacy Ordinance of 1995 (PDPO), which was revised in 2012. The legal rules regarding solar energy in Hong Kong include limitations on the management of energy sources that are carried out based on the aim of legally utilizing them; the use and implementation must be in accordance with the objectives to protect against irresponsible access, which has implications for the obligations of third parties managing solar energy sources (corporations or companies) to publish the solar energy market development policy transparently; if it is violated, the Hong Kong government can issue a summons to the party concerned (Nguyen, Wang, & Hsieh, 2021).

Norway is one of the countries that has almost the same target as Indonesia, namely, reducing the greenhouse effect by up to 40% and reducing net carbon neutrality by 2050. The difference is that Norway set out provisions to achieve this target of clear and harmonized legal rules. Norway has implemented a Climate Change Act as a reference for the formation of legal products. Norway's legal products include the Energy Act and the Electricity Certificate Act. The formation of regulations in Norway has also focused on developing a friendly renewable energy environment, which can be seen by the existence of legal products that specifically regulate renewable energy, such as the Waterfall Rights Act, which regulates renewable energy ownership rights from waterfalls; the Watercourse Regulation Act, which regulates diversions river flows according to which stakeholders must have licensing; and The Offshore Energy Act, which regulates renewable energy development originating from offshore wind power.

The existing legal products in Norway also pay attention to the concept of the energy trilemma. Several legal products that regulate the development of renewable energy are embodied in environmental sustainability and energy security. Legal products in Norway make the development of renewable energy a goal and priority, which is a form of impartial action on the environment. Environmentally friendly renewable energy settings with special and specific rules can be utilized continuously without having to have a negative impact on the environment and human health. This will guarantee the availability of energy for human needs in the future as well as the goals and focus of energy security. Norway also pays special attention to the formation of regulations that regulate energy management and distribution issues, as can be seen in the Energy Act, which ensures that energy use can be more effective and efficient.

Such a detailed, comprehensive, and harmonious arrangement starting from setting targets to creating legal products that determine the process management of energy sources and energy use in line with green legislation, making legal products in Norway implement green legislation as a process, and not

just a label. The success of the existing provisions in Norway can be seen from its success in becoming the most advanced country in utilizing renewable energy sources.

The legal parameters that are said to be sovereign are also reviewed based on how the law itself is drafted. In this case, there is often an overlap between two laws. It would be very unfortunate if in drafting a law there were still many rubber articles, which means trying to make a law without paying attention to the function of the law itself. Essentially, law functions as a basis for resolving various problems or events related to law. However, this function often does not operate in harmony with the rules of statutory regulations. Therefore, no matter how good the legal system is in force, if it is not accompanied by human character or nature, it will be useless. In other words, the morality of state administrators is very important in creating a legal situation that is conducive to the ideals of the Indonesian nation in the preamble to the 4th Paragraph of the 1945 Constitution.

Table 1. Comparative Study of Solar Energy Utilization in the World

Solar Energy Category	**Countries**
Solar Energy by Thermal and Photovoltaic methods (legally increasing)	Italia, Norwegia, Polandia, Prancis, Slovakia, Slovenia, Spanyol, Swedia, Swiss, Amerika Serikat dan Hongkong
Solar Energy by Thermal and Photovoltaic methods (not legally increased)	Argentina, Australia, Austria, Belarus, Chile, Estonia, Finlandia, Jepang, Kanada, Latvia, Lituania, Nepal, Nigeria, Peru, Rumania, Uni Emirat Arab, Venezuela dan Yunani

Source: Data Processed

3.4. The Urgency of Legal Rules for the Development of Taman Surya Nusantara as an Answer to the Sustainability of Energy Law in Indonesia

The development of Taman Surya Nusantara is still facing obstacles, especially because of the large investment value and financing schemes that are difficult to predict. Solar energy is obtained prior to exploration, similar to oil and natural gas resources. However, solar energy cannot be directly produced and used commercially, and there are five phases of solar energy development.

1. Exploration and investigation
2. Pre-feasibility;
3. Eligibility;
4. Detailed design and development (construction)
5. Operation and maintenance.

Based on this development phase, the construction of Taman Surya Nusantara cannot directly provide returns on investment but must wait until the entire solar power plant infrastructure is completed. In other words, there is a moratorium on receiving a significant income or profit. In response to such a situation, it is necessary to develop long-term policies or regulations to stimulate investment accompanied by proportional targets and measures for all parties, in this case by accelerating the ratification of the New and Renewable Energy Bill (RUU EBT) as a response to the sustainability of energy law (Asshiddiqie, 2010).

The EBT Bill is basically a legal product that was created to address the challenges of climate change resulting from energy use environmentally unfriendly things that are currently happening. This can be clearly seen in letters d and e in the consideration of the EBT Bill, which states that one of the efforts to overcome the impact of climate change due to global warming is the development of new energy and renewable regulations that are regulated in this bill. However, there are still several problems with the EBT Bill, which is contrary to the purpose of establishing this bill.

First, the formulation of this bill is contrary to the principle of green legislation. The philosophical basis of green legislation is that it must be a proprocess-oriented environment. However, in the EBT Bill, there is the phrase "new energy." This opens the way for the entry of new energies that are not renewable and environmentally friendly, such as nuclear and coal. Article 1 number 2 of the EBT Bill defines new energy as all types of energy originating from new technology, the new technology in question does not have to be technology that is environmentally friendly, but includes technology that is not environmentally friendly too (Khan & Sultana, 2021).

The definition of new energy sources in Articles 1 and 6. This bill also states something similar, meaning that new energy sources originate from renewable or non-renewable energy sources as long as the energy is produced by new technology. Second, the formulation of the article is ineffective because it will create a gap for the entry of new energy and going against green legislation.

The use of the phrase new energy can be a gateway to non-renewable and environmentally unfriendly energy, such as nuclear and coal. This is because the phrase new energy in this bill contains the meaning that allows the use of a non-friendly energy source environment, as long as the energy is produced from new technology. This is also clarified in the formulation of Article 9 paragraph (1) and its explanation, which states that management uses new nuclear and coal energy sources such as liquefied coal (LC), coal bed methane (CBM), and gasified coal (GC).

Coal and nuclear power have been proven to have negative impacts on the environment. The negative impacts of using coal energy can be seen in the use of CBM in America, which increases the salt content of the water the surface rises, and the land surface decreases due to the decrease in water land, as well as noise pollution caused by energy utilization activities. In addition, CBM and GC endanger healthy men.

These energy sources produce pollution such as Nitrogen Oxides (NOx), Carbon Oxides (COx), Sulfur Oxides (SOx) as well as various liquid and solid wastes, and Polycyclic Aromatic Hydrocarbons (PAHs) are poisonous if these substances come into contact natural and semi-natural ecosystems, it can result in various disease and damage to the human body. In addition to coal, the use of nuclear energy also has a negative impact on the environment. Nuclear energy waste exists in the form of radiological liquid waste and gas. The impact could still be felt up to 80 km from the nuclear reactor. The waste produced includes strontium-90, iodine-131, and isotopes of plutonium, which can harm human health and result in serious diseases such as cancer.

Coal and nuclear as new energy sources bring a lot of bad impacts, then create a contradiction with other articles in the EBT Bill and is contrary to the principles and objectives of the drafting of the Bill itself. Satjipto Rahardjo stated that the rule of law should be returned to ratio legis or the reason for the birth of the law in the form principles and objectives of legal regulations. The principles contained in the Bill EBT, as stated in Article 2, include the principles of usefulness, efficiency, environmental friendliness, and sustainability. The use of energy and nuclear energy, which have negative impacts, contradicts these principles.

The use of new energy sources in the form of nuclear and coal also conflicts with the aim of establishing the EBT Bill, one of which is guaranteeing resilience, independence, national energy sovereignty, efficiency, and effectiveness, as stated in Article 3 letters a and d of this bill. Principles and objectives stated in the articles. This is a real form of green legislation, but it must be remembered. Forming a bill that is in line with green legislation is not included in the principles and objectives but needs to be implemented in setting mechanisms in other articles.

The basic objective of the formation of the EBT Bill is to prioritize renewable energy for development. However, as previously mentioned, there is still some ambiguity in the formulation of articles in the EBT Bill regarding which energy is prioritized to meet human needs. Terminology used for the management of listed renewable energy sources. In the 40 articles in this bill, everything cannot be

separated from the management of new energy that is not necessarily environmentally friendly, such as planning, licensing, and control stages, as well as energy providers. Thus, there remains ambiguity in the energy priorities in the EBT Bill.

The next problem is that the EBT Bill formulation still does not pay attention to aspects of the energy trilemma, which is one of them seen from the problems regarding new energy that have been described previously. The World Energy Council introduced the energy trilemma in 2010. This concept suggests that utilization and equal distribution of energy within a country is not permitted, ignoring three main aspects: the energy security aspect, which focuses on how much energy is available to fulfill human needs both now and in the future; access to energy (energy access), which focuses on ease and affordability of access energy for the entire community; and environmental sustainability environment (environmental sustainability), which focuses on management energy that takes into account the environment, including mitigation processes possible environmental damage so that energy management can be carried out continuously.

However, it is shameful that the EBT Bill has not been able to accommodate these three aspects. EBT bills tend to focus on aspects of energy security and ignore other aspects. Relating to the access aspect of energy, this bill does not provide a comprehensive explanation of how. People can easily access energy at affordable prices. In terms of environmental sustainability, this bill still has a gap in the entry of new energy that is non-renewable and unfriendly and has a negative impact on the environment.

The absence of a "lex specialis" regarding the development of Taman Surya Nusantara in Indonesia has several impacts, one of which is distrust among investors and companies regarding the "management of new and renewable energy." On the other hand, special regulations that regulate the protection of the development of Taman Surya Nusantara can have a positive impact, for example, from an economic perspective that ultimately supports Indonesia as a business and investment center, as well as the management of large-scale solar energy applications such as energy return on energy investment (EROI) that can develop in Indonesia (Ridwan, 2020).

Furthermore, the construction of Taman Surya Nusantara is a new model for increasing the use of solar energy in society, especially in communities in frontier, remote, and disadvantaged areas (Kurniawan et al., 2018). With this park, the solar-energy-based electricity supply industry can collaborate with the telecommunications industry to provide alternative energy for telecommunications transmitter towers and use by the public at low costs through a circular economy mechanism (Brown, 2018).

Thus, the process of ratifying the EBT Bill must be accelerated with a strong and organized system without involving transactional politics (Yustika & Baksh, 2021). In essence, every policy formulation or regulation made by the government will give rise to support and contra in society, but every policy should be prepared systematically to save and normalize national life in accordance with reform demands, in this case, with the promulgation of the EBT Bill as the legal basis for solar energy sources through the construction of Taman Surya Nusantara in Indonesia.

5. Conclusion

In the development of Taman Surya Nusantara, it is necessary to reformulate the regulations in the EBT Bill, starting with changing orientation and changing the definition of new energy with the aim of closing gaps in the entry of non-renewable and environmentally unfriendly energy as a form of real effort to deal with green-based climate change legislation as the initial aim of forming this bill. This is a reference to how serious the government is in increasing new and renewable energy sources in Indonesia. Therefore, the development of Taman Surya Nusantara in Indonesia must have a framework that is prepared systematically, coherently, and coherently. In this effort, it is hoped that the construction of Taman Surya Nusantara will receive a positive response from all parties, with an orientation towards achieving the ideal use of solar energy for the realization of sustainable development.

Thus, the direction of Taman Surya Nusantara development must be based on visionary policies and supported by instrumental, extensive, and comprehensive regulations. With the collaboration of various parties, it is hoped that the target of easy access to clean energy at affordable costs will not only become mere rhetoric but will also bring a spirit of change and commitment to realizing a sovereign and independent business industry, transforming fossil energy towards new and renewable energy, and ensuring an effective financing scheme by upholding the principles of transparency, accountability, and professionalism.

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