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Renewable Energy Policy As Indonesia's Energy Security Strategy

Melaty Anggraini
Department of International Relations Faculty of Social and Political Sciences National Development University "Veteran" Yogyakarta
Email: melaty.anggraini@upnyk.ac.id

Abstract

Indonesia has the potential of abundant natural resources that made the country a global energy producer before, but because of the dwindling energy reserves owned makes the position reversed and caused Indonesia's policy to have energy supply from other countries, besides the high utilization of fossil energy in Indonesia has much impact on environmental damage such as air and water pollution and does not support economic development patterns. Sustainable. For this reason, the Indonesian government needs to improve its policy regulations by focusing on the development and management of new renewable energy as a form of a national resilience strategy and environmental impact reduction. This new renewable energy will be analyzed from 4 dimensions of political considerations in constructivist theory, namely idiographic, purposive, ethics, and instrument, to see if it will be appropriate for Indonesia's national energy security strategic plan. This research uses qualitative methods that explain the two variables involved in this new renewable energy and energy security and look for reasons for the need to include the concept of renewable energy in the national energy security policy strategy, with qualitative data collection techniques and library literature sources and interview results of related quotations. The results of the four-dimensional analysis will explain that the concept of renewable energy ideas is a social construction that can be a policy recommendation in the field of energy for the government to maintain the availability of energy supply in the strategic issue of national energy security

Keywords: Renewable Energy, Constructivist, Climate Change, Energy Security

Abstrak

Indonesia memiliki potensi sumber daya alam yang melimpah sehingga membuat negara ini menjadi produsen energi secara global sebelumnya, namun karena semakin menipisnya cadangan energi yang dimiliki membuat posisi tersebut berbalik arah dan menyebabkan kebijakan Indonesia harus suplai energi dari negara lainnya, selain itu tingginya pemanfaatan energi fosil di Indonesia banyak menimbulkan dampak bagi kerusakan lingkungan seperti polusi udara dan air dan tidak mendukung pola pembangunan ekonomi berkelanjutan. Untuk itu pemerintah Indonesia perlu memperbaiki regulasi kebijakannya dengan berfokus pada pengembangan dan pengelolaan energi baru terbarukan sebagai bentuk strategi ketahanan nasional dan pengurangan dampak lingkungan. Energi baru terbarukan ini akan dianalisa dari 4 dimensi pertimbangan politik dalam teori konstruktivis yaitu *idiografik*, *purposive*, *ethics*, dan *Instrument* untuk melihat apakah akan sesuai apabila dimanfaatkan untuk rencana strategis ketahanan energi

nasional Indonesia. Penelitian ini memakai metode kualitatif yaitu menjelaskan antara dua variabel yang terlibat dalam hal ini energi baru terbarukan dan ketahanan energi serta mencari alasan sebab akibat perlunya memasukkan konsep energi baru terbarukan dalam strategi kebijakan ketahanan energi nasional. Dengan teknik pengumpulan data secara kualitatif dan sumber literatur pustaka serta hasil wawancara sumber terkait. Hasil dari analisa keempat dimensi tersebut akan menjelaskan bahwa konsep ide energi baru terbarukan ini merupakan sebuah konstruksi sosial yang dapat menjadi rekomendasi kebijakan di bidang energi bagi pemerintah untuk menjaga ketersediaan pasokan energi dalam isu strategis ketahanan energi nasional.

Kata Kunci*:* Energi Baru Terbarukan, Konstruktivis, Perubahan Iklim,Ketahanan Energi

Introduction

Indonesia is a country that has considerable natural potential because it is located in the *ring of fire*, which is an area that often experiences earthquakes and volcanic eruptions that surround the Pacific Ocean basin. As a result of mountain eruptions and earthquakes, the Indonesian region has become more fertile and rich in biological resources. The ring of fire path is also quite profitable because it provides the potential of geothermal power energy that can be used as an alternative power source. Indonesia's primarily territorial waters flanked by two oceans, namely the Indian and Pacific, also contribute considerably to the potential of Indonesia's natural wealth and economic growth. (Resosudarmo, 2015)

Theoretically, the availability of natural resources should support economic growth. The abundance of fossil energy resources such as petroleum, natural gas, and coal should be a driver of development and industrialization and foreign exchange sources for welfare—The people. However, in reality, Indonesia is experiencing an energy crisis and cannot maintain energy supplies for its people. The Ministry of Energy and Mineral Resources data shows that Indonesia is still importing its energy supply, especially around 400,000 barrels per day. This is due to the high level of consumption of Indonesian people. Fossil energy sources and government policies still make fossil energy drivers of the industrialization economy (Umah, 2021)

The existence of energy resources should make Indonesia a significant player in producing and exporting petroleum globally, but Indonesia's reserves continue to decline; it is predicted that national end petroleum energy demand will reach 238.8 million tons by 2025 in *a business-as-usual* scenario (industry, transportation, and households) with The number of population increases of 0.8% per year which means that there will be an increase of 1.8 times not proportional to the number of energy reserves owned only with production capacity. That's 0.5 billion barrels a year (lauranti, 2017)

The data will prove that the availability of energy sources for the people of Indonesia is not guaranteed will always exist, and petroleum reserves will not be available for the next two decades. It will require that Indonesia import petroleum in full in the next twenty years.

Suppose the Indonesian government emphasizes the solution to its energy crisis on imports. In that case, it will impact the high current account deficit in the country's economy, which will

create instability in material prices. Fuel oil because I try dependent on world oil prices, and it impacts people's living burden, ultimately weakening the country's economic growth or the onset of a national crisis. For this reason, the government must be wise in making decisions and planning energy-related policies to reduce the balance sheet of the country's fiscal deficit and shift to the use of energy—alternative energy substitutes such as bio-energy, geothermal, solar power, etc. Alternative energy or renewable energy (EBT) can be a tactical solution in fulfilling the availability of energy supply and energy use. This is considered more environmentally friendly because it can reduce carbon emissions caused by fossil energy such as petroleum and coal. Renewable energy is green energy that can provide critical input for sustainable development both socially, economically, and culturally, reducing Indonesia's environmental impact. Previously, many criticisms were received from the Indonesian people about the use of fossil energy, which causes a lot of air pollution and water pollution from the process of utilization and management, which has much impact on the number of deaths of the Indonesian population.

But again, the Indonesian government has not focused its policies on developing new renewable energy, various policies that. These different policies are often made only to meet the interests of the Indonesian government—short-term economic and political interests do not take into account long-term planning and sustainable energy approaches.

The Indonesian government's planning energy policy has always been caught up in various long-term agreements and economic plans that rely heavily on fossil fuel-based production and consumption. Indonesia's fiscal structure has also always been related to the interests of fossil energy exploitation, which can be seen in government regulation No. 79 of 2014 on the energy mix. New renewable energy is not a priority scale to be developed. The form of policies made for developing new renewable energy is still weak. The government investment in developing alternative energy models has not supported meet projected energy needs.

Though the transition of fossil energy to new renewable energy is a reasonably appropriate solution, considering that Indonesia's fossil energy reserves are dwindling, which can trigger an energy crisis, as well as pushing for the *Paris Climate Change* agreement where world countries, including Indonesia, have agreed to prevent a rise in the earth's

temperature of more than 1.5 degrees Celsius. Optimizing the use of renewable energy can maintain the stability of the earth's temperature to prevent climate change. In addition, switching to renewable energy forms will increase energy security without relying on other types of oil or fossil energy exporters who may be able to embargo in the future.

The problem question in this study will question why Indonesia needs to include Renewable New Energy as a policy instrument in support of national energy security? This research will analyze new renewable energy potential that can be a transition opportunity for fossil energy consumption to support Indonesia's energy security and the global climate change agenda.

The study aims to map potential reasons for the need to transform the transition of fossil energy to new renewable energy resources as one of the solutions to the problem of climate change and the global energy crisis and as well as input for Indonesia's energy security policy strategy.

Research Methods

The method that will be used in this paper is the qualitative method. Qualitative research methods rely on text and image data as part of a tool to analyze information through several analytical steps and to document the integrity of methodological accuracy and validation of the data that has been collected. This paper will use literature studies focusing on scientific writings on renewable energy, the transition of fossil energy consumption, and collecting data from relevant sources such as the ESDM report on potential energy, alternative energy mix, energy trade-economic reports, environmental and forestry ministry reports on the energy sector that will be analyzed technically qualitatively in the form of data that will be explored—tabulated and analyzed from the results of literature studies and interviews as material for evaluation and policy recommendations in the field of renewable energy.

Theoretical Framework

Renewable energy can increase a country's energy security because if a government seeks renewable energy independently and not only depends on fossil energy, it will help domestic energy needs and avoid energy crises; in addition, the use of renewable energy will maintain the stability of the earth's temperature to prevent climate change. The author uses Reuss Smith's constructivist theory to

support this statement, which helps explain the importance of switching fossil energy to renewable energy as seen from 4 reasons for political considerations.

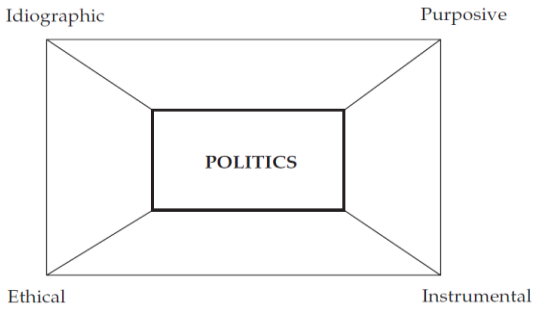
Reuss-Smith assumes that political decisions are formed from various things and based on consideration of multidimensional human actions. In every decision-making for policy-making related to public policy, there is always *a reason* based on internal and external dimensions, which are also influenced by normative and ideational structures through socialization to form the main thinking logic and influence decision making (Reus-Smith, 2004).

The reason is formed from ideas created from human creation, which is always influenced by a norm believed together to run a living system. Then from the consideration of these norms form a goal, why should run the life system by the normative direction considered thought. Finally, the plans based on these belief norms include the identity of the decision-maker and why he chooses that path or way (policy) as a means of achievement of his goals.

Reuss-smith legitimizes it in the tropes of 4 political considerations that always affect every change in political direction or every policymaking that actors / decision-makers are usually always influenced by four elements: idiographic, purposive, and ethical instrumental.

Usually, before he takes action, they must first understand who he is or the idiographic element in him that reflects the identity possessed by the direction of the believed norm. Then in the process of understanding identity, he must understand his goals or interests that lead him to how he can get what is in his interests and what ways or methods can be utilized to fulfill his needs or interests. You can see from the following illustration:

Figure I. The interstitial conception of politics



Source: Christian Reuss-Smith,2004, p.26

To understand the use of Reuss-Smith-style constructivist theory in this research process, the author will analyze the reasons for the urgency of the renewable energy transition as a form of Indonesian energy security judging from four political considerations put forward by Reuss-Smith, whereby first analyzing

the identity of the Indonesian state as a country rich in fossil and non-fossil energy sources but predicted to experience an energy crisis in the next 50 years. From these concerns, Indonesia needs to think of a way to maintain energy security for its country, which does not only depend on fossil energy sources and petroleum imports from supplier countries.

Indonesia needs to understand renewable energy as a new instrument in meeting its needs in maintaining energy security and incorporating it into its energy policy strategy. Moreover, this renewable energy transition is by the norms of the *Paris Climate Change* agreement that Indonesia has ratified to help the world reduce greenhouse gas emissions globally.

Discussion

a. Renewable Energy Opportunities as a Form of Energy Security

The trend of transitioning the use of. Fossil energy to renewable energy has been global, many. Many countries have focused their investments on developing new renewable energy, such in Europe and the Americas; even Asia, China, India, and Singapore are seriously starting to create alternative energy from solar and develop new renewable energy such as Europe and the Americas. Even Asia, China, India, and Singapore are seriously starting to create alternative energy from solar. Wind power. The clean energy transition is not an option. Still, it ratherinsteadrather instead has become an obligation for these countries to remove their dependence on fossil energy. Maintaining availability has become an obligation for these countries to remove reliance on fossil energy and maintain reserve supplies—given the dwindling world's oil reserves and other fossil energy sources.

Indonesia also needs to realize a new renewable energy transition. As much as 94% of Indonesia's energy needs are supplied by fossil energy, energy consumption per year is constantly increasing. She was accompanied by an increase in population increase in population accompanied her. Moreover, Indonesia has committed to the Paris Agreement to reduce greenhouse gas emissions by 29%, including the Paris Agreement to reduce greenhouse gas emissions by 29%, fossil fuel pollutants, until 2030. Then the utilization of clean energy or new renewable energy is needed to be developed. Judging from its geographical location, Indonesia is also very suitable for creating alternative energy such as geothermal because it is located in the *ring of fire*.

Renewable energy (EBT) derived from natural sources such as sunlight, wind, rain, and biomass can replace fossil energy consumption due to resources. Energy accessibility is adequate in Indonesia and can be renewed through technology development. In addition, the utilization of new renewable energy is considered environmentally friendly and commercial when traded in the global energy market because it is predicted in 2050. Almost all countries in Europe utilize new renewable energy such as solar and wind power for the fuel used. Countries that have developed new renewable energy independently can get opportunities from the demand of the renewable energy market globally.

The Ministry of Energy and Mineral Resources (ESDM), in the energy policy of Law No.30/2007, has explained renewable energy that is defined as energy generation from energy sources such as heat. Earth, wind, bio-energy, sunlight, hydropower, and the movement and difference in ocean temperature(lauranti, 2017). The renewable energy transition is considered important for economic activities and national resilience to overcome reserve limitations and requires efforts to diversify energy resources and support the National action p in reducing greenhouse gas emissions because about 19% of greenhouse gas emissions are derived from the burning of fossil fuels. In 2015, emissions reached 261.89 million tons of carbon dioxide from the energy sector, which means an average increase of 2.43% per year with the composition of the material. Fuel oil cuts 64%, coal 16%, gas 12%, and liquid fuel 8%. These emissions are produced from the transportation sector (53%), industry (35%), housing (8%), and. Other commercial destinations (4%). (lauranti, 2017) So, the Indonesian government assesses the need for a form of transition from fossil fuels to new renewable energy.

Another consideration is Indonesia's fossil fuel energy crisis experienced by Indonesia, which requires importing energy such as oil and gas fuels from other countries. Although Indonesia was once a *net oil exporter* and a member of OPEC *(Organization of Petroleum Importing Countries)* or oil-exporting countries (especially petroleum in export orientation that plays a role in maintaining the stability of world oil prices) Because Indonesia has energy reserves derived from the fat of 9 billion barrels with a production capacity of 500 million barrels per year, gas reserves reach 182 trillion cubic feet with a

production capacity of 3 trillion cubic feet per year and coal reserves of 19.3 billion tons with a production capacity of 130 million tons per year (Rachmat, 2018) so that the energy reserves make Indonesia start to produce. I consider the global energy market as a country of energy suppliers. But in 2008, Indonesia withdrew from OPEC membership because it could not meet the demands of petroleum production quotas due to dwindling reserves. The depletion of Indonesia's petroleum reserves is due to the increasing industrialization and population growth of Indonesian people who who who who'll depend on petroleum energy so that they depend on petroleum energy. The level of balance between the fulfillment of Indonesia's needs and the amount of supply is unbalanced. It can be seen from the table below, which shows the amount of increase in demand for fossil energy consumption in the period 2003-2013.

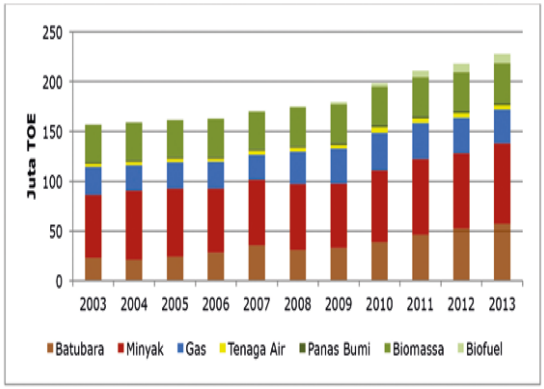


Table 1. Increase in the number of energy consumption requests per sector
Source: Ministry of KESDM, 2013

The table explained that from 2003-to 2013, the primary energy supply increased from 157.08 Million TOE to 228.22 Million TOEs in 2013 and is still dominated by oil. earth with fuel oil (BBM) (DEN, 2014)

Energy needs are predicted to continue to grow due to economic growth and the increasingly growing population; therefore, the fulfillment of energy supply guarantees becomes an essential factor for more notice. Indonesia's energy sector also still needs to be taken into account in the global energy market even though the reserves are dwindling in terms of the economy of the energy sector contributing 8.4% of the amount. National GDP in 2013 from the total amount of oil and gas exports directly contributed 24% to total state revenues. (DEN, 2014) The phenomena and facts that have been mentioned increasingly consider that the energy sector needs an energy security guarantee that will guarantee the national and international energy supply. Energy policies set by the government must lead to sustainable energy development to produce optimal economic added value to support

economic growth for the people of Indonesia.

The Indonesian government needs to prepare energy governance for the transition toward meeting energy needs derived from renewable energy sources. In more detail, Government Regulation No. 79 of 2014 has also been explained the need to maximize new renewable energy and minimize the use of petroleum. The potential of new renewable energy (EBT) owned by Indonesia is quite large and diverse in types. Still, it has not been optimized for production product development bec uuseuseuse of the high investment costs. EBT management that has been run in Indonesia is dominated by hydropower, especially in hydroelectric power plants (PLTA); other EBT sources are still managed sustainably. Such as biomass, geothermal, and biodiesel. All EBTs developed and produced in Indonesia are of great potential value in replacing the projected map of the amount of fossil energy consumption can be seen in the following table:

Tabel 2. Potensi EBT untuk dimanfaatkan sebagai transisi energi fosil

Jenis Energi	Sumber daya	Kapasitas terpasang	Pemanfaatan
Hidro	94,476 MW	5,024 MW	5.3%
Geotermal	29,544 MW	1,403.5 MW	4.8%
Bioenergi	32,000 MW and 200,000 bpd BBN	1,740.4 MW	5.4%
Sinar matahari	4.80 kWh/m/day ~ 207.9 GW	78.5 MW	11.7
Angin dan hibrida	3-6 m/s ~ 60 GW	3.1 MW	
Energi laut	61 GW2) Wave: 1,995 MW Ocean thermal (OTEC): 41,001 MW Ocean currents: 17,989 MW	0.01 MW	

Source: National Energy CoCouncil Report, 2016

Table 2 explains that the government has developed EBT to reduce fossil energy consumption. The government has targeted four energy sources. Namely, geothermal hydropower, bioenergy, and solar power, which, although still not optimally managed but the potential of EBT, especially from hydropower supply, is enough to help Indonesia with Forecasts of a total capacity of 75000 megawatts through power plants or by 80% can sustain the transition of energy from fossil energy, the rest is helped solar power plants, wind, and bioenergy. Although not yet maximal in the transition utilization of fossil energy,

the capacity of the energy mix targeted by the Indonesian government in Law No. 30 2007 has been sufficiently realized.

EBT is directly enough to help maintain the availability of energy supply for Indonesia, using hydropower as a power plant s ability to provide additional energy for 15,796 homes. Ladders in remote areas and 82,000 in the public sector. Previous electricity. Shortages were also helped by developing electric fast-track projects by utilizing hydropower and geothermal mines.

One of the goals of national energy security is that in addition to easy access to sufficient amounts of energy, there is the affordability of prices when viewing the development of EBT. It is still relatively expensive because it is explained in the Regulation of the Ministry of Energy and Mineral Resources No. 12 of 2017, article 11. The government has set a benchmark purchase price for EBT electricity by the electricity benchmark. The highest cost of local production is because EBT receives far less incentive than fossil fuels. But if the government focuses on developing EBT and implementing large enough subsidies for EBT, the impact will be huge name. The namely availability of energy, especially electrification, will be huge. Available at a reasonably affordable price for the community and its. Its utilization is much more environmentally friendly. The government is not too dizzy thinking about its effects if there is a high increase in consumption by the community in the future. In terms of business will also be far attracting investors to invest in EBT projects so that it will also be profitable for Indonesia because it'll encourage growth. The economy in the sale of electricity reserves.

The efficiency of new renewable energy varies greatly. Being felt directly towards energy utilization will also improve the welfare of its people because more and more EBT projects will be developed. More and more are creating jobs for the people of Indonesia, let alone more job opportunities. An environmentally friendly energy industry that will also achieve Indonesia's goals in The Paris *Climate Change* agreement automatically reduces greenhouse gas emissions.

Indonesia has agreed to the framework of the Paris Agreement (UNFCCC) to control the reduction of carbon dioxide imposed in 2020-2030, reduce the increase in the earth's temperature by no more than 2 degrees Celsius, and strive to 1.5 degrees Celsius. To account for the agreement, Indonesia must make various efforts to achieve the agreed targets. It seems that the transition

to clean energy, such as the renewable energy transition, is the best way to achieve the targets of the Paris agreement.

Another impact of the utilization of this EBT transition is long-term effects. For the people of Indonesia, the community will raise awareness to adopt an environmentally friendly lifestyle. Will be increasingly aware and turn to the use of EBT energy such as solar panels bioenergy, rather than the use of bioenergy rather than fossil fuels, which are much more energy-efficient and will gradually improve fuel use efficiency in the transportation sector.

The action plan will go according to plan and will directly achieve national energy security goals, but again depend on the governance of energy resource development policies. The government and the investment climate do this. The development of EBT is very dependent on the carrying capacity of technology, and Indonesia's technology as a developing country still depends on foreign aid technology that s relatively high in price and requires significant c ital for the technology procurement process. At the same time, government regulation is still feeble to support capital and open up the investment climate in the EBT sector. This has led to low interest in investing in EBT Indonesia in the business sector.

Another thing that s considered is that there are some less effective policies on debt energy governance related to governance that some less effective guidelines on debt energy governance linked to power have not been focused on the specific regulations regarding EBT associated with the fragmentation of supervision and coordination that will make it more difficult for investors to make investments. For this reason, the Indonesian government needs to evaluate and focus on debt development policy so that the potential of EBT as a fossil energy transition has many benefits. The overall social and economic aspects of Indonesian society can be realized immediately and support the opportunities of the National Energy Security goals. They will have economic opportunities in the global energy market.

b. Construction Analysis of Renewable Energy as Indonesia's Policy Agenda

Talking about Indonesia's increasingly depleted energy reserves makes international doubt about the availability of abundant energy in Indonesia. Indonesia is formerly producing energy, especially petroleum, in terms of its idiographic. But this is undeniable because the amount of increase in energy imports carried out by the Indonesian government always increases per

year to meet the reserve needs of its people. Indonesia has more than 441,000 barrels/day of petroleum-related because Indonesia's energy consumption has continuously consistently increased rapidly by 2.6%. Annually to ESDM data, Indonesia's growing economy and population and Indonesia's lack of oil refinery capacity.

This trend will increase and require the government to meet its domestic energy needs with energy supplies from other countries such as Saudi Arabia, Malaysia, and Brunei Darussalam. Although government policies have made the energy mix by relying on the utilization of energy from fossil energy and the utilization of EBT but relying on the utilization of fossil energy, the utilization of EBT, and the level of consumption. The highest point is still from. The category of fossil energy such as petroleum, natural gas, and coal; according to data from the Ministry of Energy and Mineral Resources, 91.45% of Indonesia's energy needs in 2018 were supplied from energy fossils (Poppy Winanti, 2020).

It can be seen that Indonesia's idiography is undergoing a transition, declining petroleum production capabilities and increasing. Petroleum needs that make the Indonesian government issue a supply energy policy. Other countries are very contrary to the identity of the previous State of Indonesia, an energy-producing producing country that was incorporated into OPEC (Organization Of the Petroleum Exporting Countries) in 1962. The abundance of petroleum, natural gas, coal, and even renewable energy such as geothermal, hydropower, wind, and bioenergy should make Indonesia worthy of being considered a country. Energy producers are back.

During this time, Indonesia has always depended on energy supply to fossil energy. There is a decrease in fossil energy reserves because it includes types of energy that cannot be renewed, but actually—Indonesia's energy resources. Vary greatly. Indonesia's geographical location is very profitable in the middle of the equator, making Indonesia's energy resources relatively abundant and varied; even Indonesia is recorded as a country with capacity. Geothermal energy is quite significant because it is located in a volcanic arc and reaches 29,215 Giga Watts, and geothermal energy points that earn 285 most in the world and the potential for development.

Geothermal resources are qurelativelyigh thermal energy resources because they are located in the world's most active tectonic framework between the Indonesia-Australia, Pacific, and Plate Tectonics borders. Eurasia, the position is

very profitable for Indonesia to develop EBT from geothermal. Geothermal Energy is very suitable for using electric power and utilizing hydroelectric EBT. Although the potential of EBT is quite significant and consists of various types, it has not been managed optimally; that maybe that's what makes Indonesian society still Depend on fossil energy because the price of EBT is much higher than fossil energy, the government still subsidizes. EBT has a faprettyood potential for the energy resources of the Indonesian people.

In addition to the variant of energy resources from the natural sector, Indonesia is also abundant in biofuels. Or om plants and organic waste, the people of Indonesia have known and Use organic waste to be used as environmentally friendly energy resources. Such as biofuels and bio-energy. The territory of Indonesia, wherever t is located, is very much a point of environment that can be utilized as a renewable energy source. Even the government has declared in the law that the wealth of Indonesia is very.

Abundant and maintained by the state in article 33, paragraph 3, which reads: "The Earth, Water, and Natural Wealth contained therein are controlled by the State and used for the greatest prosperity. "it is clear that Indonesia is precise a country whose energy potential. It is quite a lot, only that energy governance in Indonesia has not been optimal, and the Indonesian government is still? Stuck. Economic agreements that are considered profitable in the short-term and turn detrimental when executed, such as weak foreign investment policy (PMA), allow investors to have the freedom to explore Indonesia's energy resources without the added value of retribution in the event of natural. Damage is only responsible for 2% of CSR funds when the profits obtained are much higher than the damage of resources received. In the end, Indonesia accepts its impact due to an energy management system that is still inadequate, lacks transparency in the energy policy-making process, and is still challenging to map. Problems in energy issues brought Indonesia into an energy crisis, reversing the direction of its true didentitydentity, namely energy-producing countries and rich in energy sources in the country. Import energy and energy supplies from other countries.

The verse describes the identity and purpose of Indonesia itself to be able to develop the potential of existing natural resources for the benefit of economic growth and the welfare of the people of Indonesia, one of them is by utilizing existing energy sources and maintaining their availability for an extended period. So, in summary, the real goal is that Indonesia

has economic interests that emphasize one of its aspects in the energy field; therefore, Indonesia needs to become a country. Energy producers are back to maintain eir national energy security; one way is to set energy policies that focus more on renewable energy.

In addition to having economic interests, Indonesia also plays an active role in environmental mitigation efforts, one of which is the UNFCCC *Paris climate change, which participates* in climate change and reduction efforts. Greenhouse gas ssionsemiemissions. Although the energy sector only accounts for about 19% of increasing greenhouse gas emissions, especially from the burning of fossil energy, energy policies must be developed a plan that supports the greenhouse gas emission reduction agreement. At the 21st conference of the parties in Paris, Indonesia has agreed to set a target ouse gas emissions y 29% by 2030 on *business-as-usual* anes and emphasized business-as-usual business. Domestic. The *business-as-usual* lane street is dominated by the use of energy from industrialization, transportation, and household consumption activities that utilize the primary energy materials from fossil energy, such as petrol and natural gas, which means the government needs to reduce about 314 million tons of CO2 or about 14% of the basic *business-as-usual* scenario. One of them is to transition fossil energy use to new renewable energy that is considered environmentally friendly.

The Indonesian government also needs to prepare a pare energy calculator to regulate a more efficient energy management system and create new adaptation patterns for all Indonesians in utilizing energy. And towards sustainable development, which means thinking about plans by storing energy reserves still available for future services. This new renewable energy transition plan will be by the *value of ethics (norms)* embraced by Indonesia in every policymaking process, namely the principle of *ecological extension*, about recognizing interdependence in the environment d human survival. Based on these basic norms or principles that Indonesia believes to be the. Basis of every policy rule maker, it will construct Indonesia's energy policy re. It leads to adjusting the natural environment by utilizing. New renewable. Energy transition patterns in every set policy agenda. *Ethics* became Indonesia's guidelines the policy-making. Preprocess also varies with the norms of the UNFCCC in the *Paris Climate Change* agreement n adaptation efforts, and Environmental mitigation by reducing carbon emissions is one way of utilizing clean energy. The examples contained in

the UNFCCC also include more about values that understand the development of international issues, so that the rules and policies made accommodate all the interests of the international community, then become a consideration that constructs the thinking of the Indonesia people, especially the government to focus more on utilizing the Renewable energy (EBT) to to to maintain National Energy Security. The average National Energy Policy focuses on strategies to ensure sustainability, security of supply, and efficient energy utilization. There is an optimal energy mix, specifically in Law No. 30 of 2015. 2007 on energy (article 20 paragraph 3) mandates increased new and renewable energy provision. At the national and regional levels, these policies have limitations in calculating the allocated tariffs. Development capital and the number of subsidies for fossil energy development are much. Nt than the assistance, T subsidies thus make the price of EBT much higher for access to the. In the broader community, because the government still focuses on the use of fossil fuels, then Capital investment for the development, technology, and exploration of EBT is smaller than fossil energy capital investment, which ultimately has an impact on EBT production opportunities EBT is still not the government's main focus in planning an action plan for the drivers of economic growth from the energy sector. Some of these things that need to be improved and become the focus of the agenda for the Indonesian government,

In addition to establishing policies that focus more on the transition and governance of EBT, the Government of Indonesia needs to think of ways to form a particular institution that houses the development of new energy. Renewables are instruments in the process of achieving goals. This established institution can also be used for environmental diplomacy about new renewable energy projects in the global energy market. So that it will help boost the economic growth of Indonesia's people. Indonesia has an institution that manages new renewable energy, namely State-Owned Enterprises PT. PLN (State Electricity Company). PLN is a state-owned enterprise that is quite important in the energy sector, which serves as a company that also carries the mandate of the state's commission in achieving the state's objectives. Needs. This STATE-OWNED has the authority to manage the country's energy supply in a centralized manner, including developing and researching new renewable energy, such as accelerating negotiations.

Prices and procedures for EBT investors and building a conducive investment climate. But again, this STATE-OWNED Institution

has a downside in that PLN has not been able o attract many opportunities in terms of EBIT project investment. PLN has not been able to attract many opportunities options in terms of f EBIT project investment and has not understood how necessary. Mapping of various technologies for the development of new renewable energy and still cannot reasonably and evenly determine the feed-in tariff scheme in encouraging renewable development business so that the performance of this institution as an instrument of achieving Indonesia's national goals in the field of national energy security still needs to be evaluated in terms of performance. For BT governance.

c. Indonesia's EBT Policy Strategy Draft

After seeing the problems that often arise in the efforts of new renewable energy management, several things need to be done by the Indonesian government regarding energy policy evaluation to foctoevelopment and utilization of EBT, which will later become a recommendation for future improvements.

The commitment to start the transition to renewable energy is found in several policies, namely in Law No. 30 of 2007, article 20 paragraph 3, Government Regulation No. 79 of 2014, Government Regulation No. 7 of 2017, and Presidential Regulation No. 4 of 2016 and Regulation of the Ministry of Energy and Mineral Resources No. 12 of 2017, and from various policies, several things need to be considered and improved, namely about energy diversification patterns, energy-intensive subsidy prices, infrastructure and technology, public access, and institutional and funding. (lauranti, 2017)

First, it is pretty clear about the need for the energy transition to new forms of renewable energy in all these energy diversifications and public access policies. Still, it has not marly mapped the EBT sector needed by IndoneIndonesian people to focus on one or two EBT sectors because Indonesia’s territory is quite large. There are many potential sources for EBT development. For this reason, the central government must cooperate with the Local Government to analyze the mapping of potential areas for the development and research of EBT that is tailored to the estimated energy needs of the community. The government must be committed solidsolidly to realizing regional targets for debt web development by working with local governments to create a broader scope in implementing clean energy projects that are considered very potential. Sometimes the government can only formulate policies without knowing clearly which areas are

likely enough to be the center for EBT development; this is where coordination between regional sectors is needed to correctly map the project path for web development and distribution to map the project path for web development and distribution correctly. For example, the Ministry of Energy and Mineral Resources has allocated a budget for developing EBT, such as solar power, hydropower, geothermal, and bioenergy in Sumba, East Nusa Tenggara, for national electrification projects because this region is considered very potential. There are still many areas in the region that have not distributed energy properly, so there are some areas that do not have access to electricity; This is where the role of the local government is to coordinate with the central government for regional improvement and increase the electrification ratio on the island of Sumba with the capacity support provided.

Energy diversification efforts are needed to minimize the demand for fossil energy and available energy reserves in the future. For this reason, the Indonesian government must begin to establish a regulation to reduce the dwindling energy supply by reducing subsidies and conducting an energy mix. But the energy mix is focused on fossil energy and focused on fossil energy and fossil energy and must be balanced with the utilization of new renewable energy. The government has spent money to do various research researching in developing alternative energy, but it takes a long process to be implemented, and the cost is not small. According to Kearney calculations (2019), capital investment needs for renewable energy development in Indonesia reached 62 billion US dollars in the period2018-2025. Still, Indonesia could only provide a range of 0.6 billion US dollars in 2016 and 1 billion US dollars in 2017. Therefore, Indonesia needs to attract a foreign investment climate to help optimize new renewable energy project programs. In addition to attracting foreign investment, the Indonesian government also needs to support the renewable energy business sector on a domestic scale by providing regulatory leeway in the implementation process and incentive support. This initiative requires support from stakeholders such as parliamentary support, business people, and public approval for smooth regulation in energy governance, including infrastructure support and technology development. (Poppy Winanti, 2020)

The withdrawal of the foreign investment climate is not only for the transfer of capital addition for the development of new renewable energy but also the absorption of foreign alien technology models that are less controlled

by the Indonesian people in making EBT programs, for that the government needs to support by establishing regulatory leeway to foreign investors while paying attention to the principles of justice and benefit for their people, such as the establishment of ease of transportation access by making Infrastructure facilities and licensing allowances for foreign companies that will invest, especially in the field of energy provided that there is a process of transferring technology in it.

Furthermore, what needs to be evaluated is the price of energy subsidies and intensive; regulation no. 12 of 2017 explained the government's incentive for energy development and research, but there is a gap between fossil energy and EBT. Fossil Energy receives support funds by developing new technologies for energy processing much greater than renewable energy. In article 11, it is also explained that the purchase price for renewable electricity is adjusted to the highest benchmark price for local production cost, which is much higher than the price of access to fossil energy when taken into account. This needs to be reviewed about the policy of price calculation guidelines and government subsidies to attract investors in making investments and change the perception of Indonesian people towards the use of EBT.

In terms of infrastructure and technology, it has been little explained that the role of government is needed in the form of large-scale investment. The Indonesian government needs to develop cooperation between the financial services authority and the Esdm Ministry to publish advocacy supporting the financing of renewable energy projects from financial institutions and open a dialogue space to discuss appropriate funding models to encourage efforts to develop new renewable technologies. It is also related to advice and evaluation in the funding scheme. (lauranti, 2017)

Finally, in terms of institutional and funding, understanding the EBT transition is one party's task, such as the Ministry of ENERGY, and the study of one party, such as the Ministry of ENERGY, and needs support from other institutional sectors. Therefore, it is necessary to ensure coordination between ministries to support the efficiency of the debt transition process and the absence of policy overlap by improving coordination between policymakers at the national and regional levels to play a standard, typical familiar role in developing policy and regulatory frameworks that support the development and sustainability of renewable energy.

In the context of funding, the government can consolidate fiscal capacities

such as tax credits or financial incentives and power such as grants and financing that support renewable energy development policies and actions, as well as encourage and promote forms of partnership between the public and private parties in the energy sector with a more measured consensus for new energy development. Renewable.

This needs to be evaluated and mapped by Indonesia to formulate the following EBT policy as a strategy that supports national energy security. Suppose you want to take economic opportunities in the global energy market. Indonesia also needs to adjust the world's wishes to the needs of the clean energy market and improve the development of technology in the field of EBT so that production costs can be much cheaper in developing new and renewable energy.

Indonesia is considered capable, according to the IRENA Report to take the potential and opportunities of the energy market globally because Indonesia has much availability of new and renewable energy sources ranging from wind, solar, geothermal. Vegetable energy sources still need to be optimized by overcoming the weaknesses of the Indonesian production sector, which has been described above. For this reason, the Indonesian government needs to underline the main focus of improving debt policy development, such as meeting high production capital costs by utilizing energy diplomacy to encourage other countries interested in investing and supporting the development of new and renewable energy exploration in Indonesia and also the Indonesian government needs to prepare regulations in the form of ease of rules in investing and provision of infrastructure facilities and infrastructure that are required. Adequate. (Poppy Winanti, 2020)

Conclusion

Indonesia was formerly known as an Energy Producer country; this is supported by Indonesia's involvement in the OPEC Organization, which regulates the world's oil management, and Indonesia's very potential geographical location located on the equator or a ring of fire region that is very rich in mineral and energy sources. But Indonesia is experiencing a transition that cannot maintain the availability of fossil energy supplies, so it requires issuing a policy of supplying energy imports from other countries to secure energy supplies. For this reason, Indonesia needs to find ways to improve regulations in the energy security sector, one of its efforts is developing and managing new renewable energy (EBT). Why switch to such solutions? There are several

dimensions by looking at the constructivist view that is considered suitable for Indonesia's future energy regulation and strategy, namely seeing Indonesia's own identity as a region of previous energy producers that is not without reason Indonesia indeed has a potential area in energy development because of the strategic location it has not only the potential of fossil energy but also renewable energy. As a country endowed with abundant natural resources, Indonesia must utilize this potential to meet people's energy needs, serve energy needs globally, and maintain the sustainability of the energy supply. From the laws and norms that are the basic principles of Indonesia in establishing regulations and various *national interests,* actions are visible interests and objectives of Indonesia is the desire to maintain national energy security owned by utilizing sources. Natural resources are held to sustain the country's economic growth and play an active role in maintaining environmental sustainability globally to achieve the Paris Climate change target. EBT is the leading choice for solution solving and has become policy regulation in the development and energy security sectors. To carry out the direction of conformity and accuracy in carrying out the best development action plan, the process needs to evaluate the previous energy sector regulations and set a unique institution that monitors and implements EBT programs seen from the instrument constructivist. The instruments used in carrying out the National Energy security strategy process that focuses on The EBT transition are the basis of Indonesia's EBT policy which is formed in Law No. 30 of 2007, article 20 paragraph 3, and about institutions mandated to regulate the management of new renewable energy, namely PT. PLN in Presidential Regulation No. 4 of 2016 indirectly becomes a way to achieve the goals of Indonesia's interest in maintaining Indonesia's national energy security.

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