

Conception of Energy Security in the Context of National Security Strengthening with an Archipelago Perspective and State Defense

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ABSTRACT: Indonesia's multiculturalism is mixed. Accessibility concerns hinder energy needs. The 2019-2028 RUPTL targets an NRE power plant mix of 11.4 percent in 2019 and 23.2 percent in 2028. From 2000 to 2017, it rose from 2,850,585.2 GWH to 6,190,947.8 GWH. National vigilance is a nationalistic attitude based on concern for citizens, communities, nations, and states. Library research techniques include obtaining library data, evaluating and taking notes, and organizing research resources. Literature studies are scientific activities because data collection follows a plan. The problem formulation, literature search, data evaluation, and interpretation are finished. As fossil fuel inventories diminish, demand rises. The distribution subsystem ensures adequate electricity for all residences. The consumption subsystem prioritizes supply and supply security. Modern energy security is critical. Many elements influence national energy security awareness and national security. National vigilance is based on care and responsibility for all citizens, readiness, and surviving possible threats to energy security. There are three indicators of energy security in a region: the sector of energy availability, the economic stability (price) of energy, and each individual's physical and economic access to energy—the importance of harmonizing energy security regulations and laws to prevent competing sectoral interests as a solution.

KEYWORDS –National Vigilance, Energy Security, National Security, Archipelago perspective

I. INTRODUCTION

Indonesia is a cosmopolitan country with both positive and negative characteristics. In order to prevent all potential risks, it is crucial to bolster national vigilance by enhancing early detection. Strong national vigilance can detect, predict, and thwart various possible challenges to the Republic of Indonesia's integrity (Bid. National Awareness & Conflict Management, 2020).

Along with other nations, Indonesia faces the possibility of an energy crisis due to volatile energy commodities prices and high NRE investment. Increased energy demand and the impacts of greenhouse gas emissions have a significant impact on the dimensions of energy security. Because it will influence the loss in industrial productivity, which will then affect the environment due to greenhouse emissions and climate change, inadequate accessibility will make it harder to meet energy demands.

In industrialized nations, the energy sector is in synergy with energy technologies to meet the nation's energy needs because technology can improve the quality and quantity of produced energy. However, energy technology can have detrimental side effects on occasion. In an endeavor to ensure energy security, however, energy technologies will remain an option.

The state of new and renewable energy (NRE) production in 2018 saw a 73 percent rise in installed NRE electricity capacity to 9,484 MW. In the 2019-2028 RUPTL, the government aims to boost the proportion of NRE power plants from 11.4% in 2019 to 23.2% in 2028. The world's NRE electricity production in 2000 was 2,850,585.2 GWh and climbed to 6,190,947.8 GWh in 2017 (Kusnandar, 2019). These challenges cannot be separated from the complexities of NRE investment in Indonesia, in which the government plays a significant role. The proposal has generated criticism, particularly among environmentalists.

For this reason, the government and community must develop an alert system that can detect early indicators of energy vulnerability in the area and respond effectively. To avoid the community from becoming more susceptible, prompt and suitable action is required with all the ensuing implications. Increase the execution of energy security vigilance and keep in mind the significance of energy security in national security.

These are the definitions used in this paper:

1) National Vigilance is an attitude toward nationalism based on a sense of care, responsibility, and worry for the continuation of life in society, nation, and state in the face of potential threats. It is also a quality of preparedness and vigilance possessed by the Indonesian people to recognize, foresee, and prevent various forms and natures of potential threats to the Republic of Indonesia's unified state. It may also be regarded as a demonstration of the Indonesian people's concern and sense of responsibility for the safety and standing of the nation and the Republic of Indonesia (Lemhannas RI, 2012b).

2) Energy Security following Presidential Decree No. 79 of 2014 and Article 1 of Law No. 30 of 2007 on energy about the National Energy Policy "KEN" is a condition of ensuring the long-term availability of energy, public access to energy at affordable prices, and environmental protection. (National Energy Council, 2021).

3) National Resilience is the dynamic condition of the Indonesian nation that encompasses all aspects of integrated national life, including tenacity and resilience, and the capacity to develop national strength in facing and overcoming all challenges, threats, obstacles, and disturbances emanating from both within and without, in order to ensure the identity, integrity, survival of the nation and state, and the struggle to attain its national objectives (Lemhannas RI, 2012a).

4) Archipelago perspective (Indonesian national perspective) is the perspective and attitude of the Indonesian people regarding themselves and their environment, which are diverse and have strategic value by prioritizing national unity and territorial integrity in carrying out social, national, and state life to achieve national objectives. Archipelago insight serves as guidance, incentive, encouragement, and signal for state administrators at central and regional levels in selecting all policies and activities. Mainly as a guidance for the conduct of all Indonesians in society, nation, and state (Lemhannas RI, 2012b).

II. METHODOLOGY

This study category summarizes the literature review, compiling some of the concepts included in the corpus of literature on a specific subject. It summarizes and evaluates what others have written about a subject without attempting to bring original analytic insights. Popular textbooks, which frequently strive to convey a knowledge of the range of thoughts contained in the literature, are summaries. In addition, the course assignments are provided in the form of a summary overview. Its nature is expansive and balanced because it rarely conflicts with others (Harris, 2019).

A summary of the literature review is defined as a series of studies relating to gathering literature or research data, with the aim of the study explored through the observations of prior studies. A descriptive literature study is employed, beginning with data collection and selection, followed by data analysis, and concluding with report writing. To define the Implementing Energy Security in the Context of Strengthening National Security with an Archipelago Perspective and State Defense, data will be collected from various relevant sources, including books, journals, anecdotes, the Internet, and papers, and will be utilized in this research.

III. RESULTS & DISCUSSIONS

2.1 Consideration of the concept of implementing national awareness on energy security and its influencing variables.

Thomas Malthus asserted that the population is growing exponentially (DPR's Budget Review Center, 2016). Nevertheless, the usage of fossil energy sources typically increases due to the depletion of fossil energy reserves. Throughout history, from the beginning of the industrial revolution to the present day, various industrial revolution events can be identified. From the beginning of the industrial revolution to the present day, energy has become necessary for producing various other primary needs, and energy crises frequently occur due to a lack of energy sources. This issue is indicative of a nation that is not yet energy-independent.

As the global population grows, so makes energy demand. Before a decade, the global population was six billion. In 2045, it will be nine billion, including 350 million in Indonesia. Population growth has contributed to energy instability. Despite its tropical location and the viability of PV mini-grids, Indonesia has energy issues. In Indonesia, population expansion produces energy issues. Increasing population is not the only concern to energy security. Indonesia's energy independence is jeopardized by the dwindling energy supply and the effects of burning fossil fuels. The subsystem for energy availability assures quantity, quality, variety, and security. The distribution subsystem ensures that all residences have access to sufficient, high-quality energy. The consumer subsystem prioritizes affordability, accessibility, and supply reliability.

The energy security situation in Indonesia is still considered to be precarious. This is evidenced, among other things, by the fact that the values of the four dimensions of energy security and their associated indicators in 2017, 2018, and 2019 most recently exhibited an upward trend and were at the resilience level. The fall in the indicator's value for the role of new and renewable energy, from 5.95 to 5.59, influenced a decrease in value. This aspect's indicator values dropped in 2018. They were at less resilient levels, including national fuel and LPG reserves, energy buffer reserves, oil and gas reserves and resources, fuel and LPG imports, and petroleum imports (National Energy Council, 2019).

Since 2014, the DEN General Secretariat has performed periodic national energy security evaluations with encouraging outcomes. National energy security is affected by several factors, including the availability of energy, affordability, and environmental friendliness. Aspects and indicators of energy security, energy security assessment methodologies, and future policy recommendations based on the evaluation are explained in the energy security book. Moreover, concerning the organization of aspects, energy indicators, and weighting aspects (National Energy Council, 2021).

The head of the bureau for the facilitation of crisis management and energy supervision, Mustika Pertiwi, stated that it is necessary to adjust the parameters and indicators for the weighting of the energy security assessment, which was prepared by the energy security team using data submitted by invited resource persons so that the assessment of national energy security in 2021 will be superior to that of the previous year (National Energy Council, 2021). To combat the extraordinarily dynamic and multidimensional Threats, Challenges, Barriers, and Disruptions that have had a significant impact on the country in the recent day.

Energy security is crucial in the twenty-first century. To establish national energy security, local energy sources must be diverse, and energy imports must be avoided. National resilience demands the active engagement and cooperation of all sectors, including federal and provincial governments, municipal and state governments, and communities. As energy availability relates to energy security, the public should be educated. This energy supply accommodates a variety of residential requirements. There must be an increase in the number of individuals who have access to power and a decrease in the number of individuals who do not. Energy is supplied through energy inputs and reserves. Domestic energy production and reserves are insufficient, necessitating imports. Equal distribution of households is required for equitable energy delivery. Therefore, expanding land, sea, and air transportation are crucial. Encourage regional energy diversification.

The following elements influence the implementation of national energy security awareness:

(1) Organization of regulations and laws beginning with their creation, implementation, and oversight.

The government's efforts to implement the national energy security program are predicated on regulations and laws. In terms of energy security, there is a high degree of intersectoral synergy when there are adequate laws and legislation in place. In addition to achieving national energy security, supporting the energy supply, particularly domestic production, is integral to the overall energy development program. Efforts to achieve energy security and stability (supply from domestic production) are equal to efforts to increase national energy production capacity in energy development and support policies, rules, and other relevant laws.

(2) Expectation of population expansion

The population is the primary and most influential element influencing energy security. Because the population is proportional to the amount of energy that must be supplied. The population of Indonesia, which exceeds 259 million, necessitates a substantial energy supply. Concerns about the potential occurrence of energy insecurity have been prompted by the situation of the population, which continues to expand, and the dangers to energy production. Consequently, Indonesia will require increased energy availability in the future. As a result of an imbalance between local energy production capabilities and required energy needs, Indonesia must import energy resources to meet its current energy requirements. If this trend continues, Indonesia will become dependent on imported energy materials in the long run. In the framework of adopting national vigilance for energy security, the population is thus a significant concern.

(3) Recognize climate change

In the contemporary era of globalization, the topic of climate change owing to global warming merits considerable consideration. Increasing the average temperature of the earth's atmosphere, oceans, and land is known as global warming. Global warming and climate change are serious issues that Indonesia likewise faces. The Intergovernmental Panel on Climate Change (IPCC) reported that the earth's average temperature has risen by 0.70°C since 1990 due to an abundance of greenhouse gases (GHGs). The relationship between global warming and human behavior, lifestyle, governmental policies, development patterns, technological decisions, socioeconomic situations, and international agreements is intricate.

Given that climate is the most crucial factor in the metabolic system and plant physiology, global climate change will negatively impact the sustainability of energy development in Indonesia. The climate will continue to be a matter of concern and vigilance for Indonesia and all nations for some time to come because climatic conditions in one region might affect those in other regions.

(4) The need to implement energy technology

In the present millennium, technology has permeated every area of daily life. The energy industry is no different. Even existing and future energy technologies will have a growing impact. The direction of energy technology development is to increase energy efficiency, which encompasses the spectrum of technologies related to electricity generation (fuel, coal power, nuclear power, solar power, wind power, geothermal power, hydropower, etc.), implementation of electricity grid/grid technology; microgrid & intelligent grid, powertrain technology, and energy storage technology. Energy technology plays a crucial role in assisting the growth of energy sources in both existing and new locations (intensification, and extensification). Utilizing technology attempts to create energy security will be carried out and realized. Thus, the employment of appropriate energy technology might be interpreted as an effort to be mindful of energy security on a national scale.

(5) Consideration should be given to the availability and distribution of energy products

The energy distribution is one of the subsystems of energy security that plays a crucial role; if it cannot be carried out effectively and efficiently, the community's energy needs will not be met. It is hoped that this energy distribution can be carried out effectively, efficiently, and uniformly in all locations where the community requires energy material transactions. This disturbance in energy distribution affects the scarcity of energy materials, increased energy prices, and the community's limited energy access as the purchasing power of energy materials declines.

Energy challenges include excess energy, insufficient energy, and the inability of households to meet their energy requirements. There are still poor people, energy-prone places, and uneven energy output. Each location's varying natural resource potential will influence the distribution and supply of energy materials over time. If the local energy availability is limited, the market is not available, transportation is limited, income is poor, education is limited, unemployment is high, and the local culture is inadequate, energy access for each family will ultimately decline. Therefore, over time, the role of inexpensive and equitable energy distribution will impact improving energy access for every household to meet their energy needs. By considering the question of accessibility and energy distribution, it is also possible to understand this as a form of implementing national energy security awareness.

(6) Enforcement oversight in the realm of energy security

Law enforcement is one of the most critical factors in implementing national awareness of national security; therefore, supervision of law enforcement, in addition to the factors mentioned above, as well as in the fields of availability, distribution, and consumption, to ensure the realization of essential energy security in order to ensure the integrity of the survival of the community, nation, and state-based on legal certainty and a sense of justice in the context of the strife, is necessary.

2.2 Elements influencing national resilience.

The concept of national resilience comprises Astagatra, which consists of Trigatra and Pancagatra. Trigatra consists of geographical, demographic, and natural resource elements. In the meantime, Pancagatra is comprised of the following components: philosophy, politics, economy, social culture, and defense and security. The following elements affect national resilience in maintaining the unity of the Republic of Indonesia's Unitary State:

First Indonesia's placement between continent and ocean. Second, foreign countries are interested in their natural resources. In an archipelagic nation with wide beaches and an open sea "axis," it is easier to undermine, intervene, smuggle, etc. Fourth, a significant population divide between Indonesia's west and east. Numerous domestic issues between regions, the center, and central and regional government agencies impede national resiliency. Another concern is Indonesia's ongoing "transformation" and reform process, which has both positive and negative effects on the nation's security stability. The economic, financial, land, sea, and air security of Indonesia impact national security. To secure its land, sea, and air borders, Indonesia must increase its defense and security capabilities. To name a few: environmental degradation (exceptionally rapid forest loss), numerous violent incidents, lack of government action, rulers misusing their position, and many man-made and natural disasters.

National resiliency is a prerequisite for the achievement of these national objectives. On the other hand, the Indonesian country needs a national perspective, namely the archipelago perspective, that guides the national development process and national goals (KESBANGPOL BANTEN, 2019). The function of understanding the archipelago is subdivided into four categories (Lutpiani, 2020):

- **Insight on National Defense and Security:** Refers to Indonesia's geopolitical perspective. This perspective encompasses the entire homeland and territory of the Unitary State of the Republic of Indonesia.
- **Indonesian Territorial Insights:** Knowledge of Indonesia's territorial limits to avoid potential conflicts with neighboring nations.
- **Development Insights** contains many components, including sociopolitical, political unity, national defense and security, economy, and socioeconomics.
- **Theory of National Resilience:** The concept of social resilience that plays a crucial role in development planning, territorial defense, and national security defense.

According to Article IV of the 1945 Constitution of the Republic of Indonesia, the disposition of defending the state and the characteristics of national resiliency are inseparable components of achieving the state's objectives. According to the Unitary State of the Republic of Indonesia, which is based on Pancasila and the 1945 Constitution, state defense is an effort to defend the nation through the determination, attitude, and spirit of all citizens and their organized and coordinated actions. A nation's resiliency is derived from its active population. Based on perseverance and tenacity, including the capacity to build national strength and overcome challenges, threats, obstacles, and disturbances that threaten national objectives. National security aids in protecting and defending the nation.

Based on the teachings of Astagatra, national resilience is a unique notion of the Indonesian nation as a state administrator. Therefore, the concept of national resilience is a means to increase the nation's tenacity and resilience, which includes the ability to develop national power with a national welfare and security approach, so that Indonesia's geo-strategy is not geopolitical for political and war interests and thus the archipelago perspective does not adhere to the theory of expansionism., violence, and occupation. To accomplish this, it is required for every citizen, without exception, to actively participate in the defense of the state under their specific competence, as outlined in the state's constitution (Suryatni, 2019).

The expansion of the globalization process in the economic, intellectual, and transportation/communication sectors also substantially impacts Indonesia's national security. Because it is difficult for Indonesia to avoid all the changes brought about by globalization. A consequence of globalization is the formation of free markets in the economic sector. Through the free market mechanism, energy goods from other nations enter Indonesia. Meanwhile, local products in Indonesia are even less competitive. Within national vigilance, all sectors and fields must be a serious concern. They must be instilled early in the realization of the preparedness attitude of every citizen in society, nation, and state with a solid basis in patriotism.

2.3 The connection between the idea of national vigilance and how it is put into practice in terms of energy security in the context of national security.

One of the issues with Indonesia's energy security is that energy consumption is increasing faster than the availability of energy materials. Population growth, economic expansion, a rise in purchasing power, and a shift in consumer preferences have all contributed to the rising demand. In the meantime, the expansion of national energy production capacity is somewhat sluggish and stagnant due to: (a) the underutilization of prospective energy resources, such as solar energy, hydro, biomass, etc.; and (b) the application of energy technology that lags far behind that of industrialized nations. (c) In Indonesia, there is no legal foundation for the acceleration of NRE.

It is envisaged that Indonesia's energy sector will be able to supply the enormous and growing demand for energy in terms of quantity, variety, and quality, given the country's extensive and growing population. Politically, Indonesia does not want to be dependent on other countries; hence the government's national strategy is to meet as much of the country's consumption demands as possible with homegrown goods. In this regard, the energy sector faces some significant obstacles. This difficulty continues to evolve with social,

cultural, economic, and political changes. Additionally, the evolution of the energy sector is not divorced from the question of globalization and the current reform climate.

The development of robust energy security must begin at the family level by utilizing the diversity of local resources, developing sources of energy materials, institutions, and an energy culture that the residents of each region hold constitute the dynamics of enhancing energy security. Locally produced energy materials are consistent with local energy resources and the environment, enabling their availability to be explored sustainably. With these local capabilities, the community's energy security is less susceptible to disruptions or changes in the energy supply outside the region or internationally.

Inside the context of national awareness, the facet of enabling local communities to improve their energy security through the development of local energy capacities is of utmost importance because it will be capable of increasing community independence as an embodiment and developing community capacity based on the empowerment of human resources in order to fulfill the community's need for energy security.

Each location in Indonesia has benefits and disadvantages regarding energy resource production. There are locations with an energy production excess and areas with an energy production deficit. With so many forms of energy, primarily generators as a source of electrical energy, no place in Indonesia can meet the community's energy requirements, especially NRE. Therefore, in the context of regional energy security, it will be possible to meet energy needs between regions through regional interconnection. In the context of the national consciousness of energy security, an active and dynamic network will be developed by interconnecting regions at the national level. National resilience is a situation and condition of the tenacity and resilience of the nation based on national vigilance.

IV. CONCLUSION

Energy security is typically defined as the physical and economic availability of energy to every individual and in all locations. There are three measures of energy security in a region: the sector of energy availability, the economic stability (price) of energy, and the physical and economic access of every individual to energy. Energy security is a system composed of availability, distribution, and consumption subsystems.

In the context of national security, national vigilance on energy security must be implemented. Because with national alertness, there will be a nationalism based on a sense of care and responsibility for the survival of the community, nation, and state from threats to energy security, and is anticipatory in the face of all negative and positive changes. The Indonesian populace's readiness to recognize, predict, and mitigate possible risks to energy security can manifest in the national consciousness. Through prudence based on ideological principles, through the spirit of diversity, and by continually increasing the potential of all existing resources, national resilience is achieved, which is a situation and condition of the nation's tenacity and resilience based on welfare, security, internal comprehensiveness, inward and outward insight, and family.

The following are some recommendations for implementing national awareness of energy security in the context of national security: 1) The necessity of harmonizing regulations and laws on energy security to prevent conflicting sectoral interests. 2) Cultivate and promote a culture of consumption based on the diversification of energy sources, particularly local energy. 3) In the context of climate change, the government must prevent deforestation and reduce car and industrial air pollution rates. 4) The necessity of encouraging domestic capabilities to provide ecologically clean, effective, efficient, and cost-effective energy technology. 5) To expand the public's accessibility to energy, the government must focus on a complete, comprehensive, and sustainable energy distribution. 6) The requirement for oversight of law enforcement in the sector of energy security, leading to legal clarity and a sense of fairness

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