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THE URGENCE OF DEVELOPING STRATEGIC PETROLIUM RESERVE (SPR) FOR INDONESIA IN FACING MILITARY OR NON-MILLITARIAN THREATS

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Abstract

A country has strong energy security if it meets numerous criteria, including the availability of energy at reasonable rates, simple access to energy, and being totally accepted by the community while remaining environmentally conscious. Building a Strategic Petroleum Reserve (SPR) or a Petroleum Buffer Reserve is one strategy to attain national energy security (CPM). Many countries already have SPRs and are members of the International Energy Agency as a means of ensuring state uniformity in achieving national energy security and defending against the prospect of a global energy crisis. Several factors must be considered when developing the SPR to ensure that it is correctly developed in accordance with its objectives and benefits.

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Introduction

Energy is a necessity that is needed by society. Because the population in Indonesia is increasing, so is the role of non-renewable energy; it is necessary to utilize and maximize the potential of new and renewable energy that exists throughout Indonesia, such as geothermal, hydro energy, wind energy, bioenergy (bioethanol, biodiesel, biomass), ocean current energy, nuclear energy, and solar energy (Hakim, 2020). Using new and renewable energy is expected to start with small-scale energy users to protect the environment, encourage sustainable development, and ensure national energy security.

Energy needs in society are the driving force for various aspects of human life, such as agriculture, education, health, transportation, business, and defense (Azirudin, 2019). With a total primary energy production (TPEP) of 411.6 MTOE in 2018, Indonesia's Total Primary Energy Production (TPEP) consists of oil, natural gas, coal, and renewable energy. Up to 64 percent, or about 261.4 MTOE, is used for exports of coal and liquefied natural gas (LNG). Indonesia also imports crude oil (up to 43.2 MTOE) and high-calorie coal in moderate quantities to meet the needs of the industrial sector (Hakim, 2020).

So far, Indonesia has relied on non-renewable energy sources such as fuel oil or fuel oil derived from crude oil (Kholiq, 2015). Fuel is used in many areas, including transportation, industry, and the family. The full use of national fuel is around 1.63 million barrels per day. Of course, as Indonesia's population grows and people's productivity increases, fuel consumption will also increase. Oil consumption not matched by an increase in national output poses a risk of scarcity of oil energy sources, such as fuel scarcity and rising fuel costs, hampering industrial activities. It can reduce the country's foreign exchange. As a result, Indonesia has to import oil to meet domestic needs. These challenges can jeopardize national





energy security (Persia, 2018), thus requiring energy saving (energy conservation) (Prasetyo, Syahtaria, & Supriyadi, 2020).

Energy reserves are classified into three types based on Government Regulation (PP) No.79/2014, namely strategic, buffer, and operational reserves. Strategic reserves are long-term energy reserves. Buffer reserve is the number of available energy sources and nationally stored energy needed to meet the country's energy needs over a certain period of time. Meanwhile, operational reserves are funds provided by Business Entities (BU) and the Energy Industry to ensure the continuity of energy supply. These three reserves are essential components in realizing a country's energy security (Persia, 2018).

As one of the largest countries in the world, Indonesia only has strategic and operational reserves. Both reserves failed to provide national energy security. As a result, the government had considered the construction of an SPR during the previous decade. SPR is often in the form of crude oil (crude), fuel (avtur, gasoline, diesel), or compressed natural gas (CNG) (LPG, LNG, CNG). Buffer reserves are typically used to store crude oil and/or gasoline around the world. Oil Buffer Reserves (CPM) or Strategic Petroleum Reserves (SPR) are generally built by rich countries, especially those who are members of the International Energy Agency (IEA). This is an international energy forum formed under the auspices of the Organization for Economic Cooperation and Development (OECD).

Given the importance of SPR in achieving and maintaining national energy security, the Indonesian government is trying to build this facility. UU no. 30 of 2007 concerning Energy, Government Regulation Number 79 of 2014 concerning National Energy Policy, Presidential Regulation Number 41 of 2016 concerning Procedures for Determining and Resolving Energy Crises and/or Energy Emergency, and Presidential Regulation Number 22 of 2017 concerning General Draft of National Energy Policy is an existing statutory regulation related to the development of SPR (Persia, 2018).

According to the explanation, this article will examine aspects related to CPM development in Indonesia, in particular, the urgency of the development of the Strategic Petroleum Reserve (SPR), particularly in facing military and non-military threats to the Indonesian state. Therefore, the formulation of the problem in this study includes the following:

1. How are oil regulations in Indonesia related to the Strategic Petroleum Reserve (SPR) or CPM?
2. What is the urgency of developing a Strategic Petroleum Reserve (SPR) for Indonesia in the face of military and non-military threats?

Method

The research design is a literature study using qualitative methods. Qualitative data will be obtained through processed data sourced from the DEN, ESDM, and the Ministry of Finance related to scientific journals, scientific research results, reference books, sources related to websites regarding the Strategic Petroleum Reserve (SPR) / Oil Buffer Reserves (CPM).



Conceptual Basis

Strategic Petroleum Reserve (SPR)

Strategic Petroleum Reserve (SPR) is a petroleum emergency reserve managed by the United States Department of Energy (DOE). It is the largest known emergency supply in the world, and its underground tanks in Louisiana and Texas have a capacity of 714 million barrels (113,500,000 m³) (energy.gov, 2015). The United States started oil reserves in 1975 to reduce future supply disruptions as part of the international Treaty on the International Energy Program after oil supplies were disrupted during the 1973-1974 oil embargo.

Strategic Petroleum Reserve (SPR) or buffer oil reserves are oil stocks of a particular country or agency that cannot be tampered with unless there is a disruption to supply due to disaster or war. The Strategic Petroleum Reserve (SPR) is the largest known oil reserve in the world. It is split across four locations along the Gulf Coast of Louisiana and Texas, chosen for their access to marine terminals and the pipelines needed to move oil. Petroleum is funneled deep underground for storage into caves carved out of salt domes which are considered the most environmentally safe way to store oil due to their low permeability.

The current inventory is displayed on the SPR website. As of 4 December 2021, inventories were 593.6 million barrels (94,370,000 m³) (Inventory, 2022). This equates to approximately 29 days of oil at the 2019 daily US consumption rate of 20.54 million BPD (3,266,000 m³/d) or 60 days of oil at the 2019 daily US import rate of 9.141 million BPD (1,453,300 m³ / d). However, the maximum total drawdown capability of the SPR is only 4.4 million barrels per day (700,000 m³/day), so it will take approximately 145 days to use up the entire inventory. At recent market prices (\$58 per barrel as of March 2021), SPR holds more than \$14.6 billion of sweet crude and approximately \$18.3 billion of sour crude (assuming a \$15/barrel discount on sulfur content). In 2012, the total value of crude oil in SPR was about \$43.5 billion, while the price paid for oil was \$20.1 billion (average of \$28.42 per barrel) (energy.gov, 2015).

Military Threat

Military threats are efforts made by using weapons against threats or those that harm state sovereignty, territorial integrity, or national security. The following are examples of military threats that are effectively translated from the "Indonesian Defense White Paper" of the Ministry of Defense of the Republic of Indonesia (Kemenhan, 2008):

1. Aggression

What is meant by "aggression" is the action of a country allowing another country to use its territory to carry out an invasion (armed attack). The existence of an attack can undoubtedly endanger the sovereignty of the Unitary State of the Republic of Indonesia (United States of Indonesia).

2. Territorial Violation

The vast and open geography of the Indonesian archipelago provides a significant enough opportunity for other countries to violate Indonesian territory.

3. Armed Rebellion

The armed insurgency can occur covertly or explicitly by some parties at home, whose efforts may be sponsored by outside powers. The existence of an armed rebellion against the Indonesian government can disrupt government operations.



4. Sabotage
Sabotage is described as the destruction or destruction of a number of Indonesian military installations, essential assets, and strategic installations. The enemy has taken advantage of the rapid advances in science and technology to plan his sabotage efforts.
5. Espionage
According to the Big Indonesian Dictionary (KBBI), espionage is a specific and confidential investigative activity of anything related to military and economic data of another country.
6. Terrorist Action Using Weapons
Terrorist acts have become a great enemy for all people around the world (globally) because it is a clear violation of humanity. The occurrence of an act of armed terrorism can result in many victims, as well as deep pain and anxiety, the purpose of which can happen to anyone without warning.
7. Threats to maritime and aviation security
Any challenges to maritime and air security will jeopardize the stability of the security of the Unitary State of the Republic of Indonesia
8. Community Discord
Communal conflict is the ultimate kind of military danger. Communal disputes can arise in the broader community as a result of the dissolution of communal identity, which includes social factors (political, ideological, economic, defense and security).

Non-Military Threat

Non-military threats are threats that use non-military reasons to endanger the sovereignty of the state, the territorial integrity of the state, and the security of the entire state. Non-military threats can include ideological, political, economic, socio-cultural, technical, and informational elements, as well as public security implications (Indrawan, 2015).

1. Threats that have an ideological component
Radical organizational movements are one the non-military dangers with an ideological dimension. The motivation for the movement of radical groups is religious, ethnic, or popular interests.
2. The political dimension of the threat
Political threats can come from within and outside the country. Threats with a political dimension from abroad are carried out by a country through political pressure in the form of intimidation, provocation, or political embargoes.
3. Threats with Economic Aspects
The economy is not only a weapon of domestic stability but also determines the negotiating stance of each country in international affairs. Economic threats have the capacity to destroy a nation's defenses. Internal and foreign threats of an economic nature can be classified. Internal risks may include excessive inflation and unemployment, poor infrastructure, income inequality, and other factors. Meanwhile, external hazards can take the form of, among others, weak economic performance indicators, low competitiveness, and significant dependence on outsiders.

4. Threats with Socio-Cultural Aspects
Non-military threats that are socio-cultural in nature can come from within or from outside. Poverty, ignorance, backwardness, and injustice are the root causes of internal danger. As a result, issues of secession, terrorism, and bloodshed arose.
5. Information Technology Dimensional Threat
The improvement of science and technology or science and technology provides many benefits for mankind; However, along with breakthroughs in research and technology, there are also crimes that take advantage of advances in science and technology, such as cybercrimes and banking crimes.
6. Dimensions of public safety
Geographically, Indonesia is located in a disaster-prone location, both in terms of natural disasters and transportation security, as well as hunger. Earthquakes, volcanic eruptions, and tsunamis are examples of natural disasters. Disasters are caused by humans, such as the use of drugs and psychotropic compounds. In addition, transportation security is one of the most critical aspects of public security in Indonesia. Today, the public's need for transportation is increasing, giving rise to unhealthy economic competition, such as lowering tariffs that have an impact on safety.

Results And Discussion

Internal demand for oil that increases from year to year without being matched by supply growth has the potential to increase dependence on oil imports. Not only that, but if this scenario continues, it will have an impact on the country's economy and national security. Indonesia's oil exports are expected to decline from year to year, in contrast to imports which are expected to increase.

This explanation adds to the list of reasons why countries should immediately establish and implement an SPR. Currently, Indonesia imports half of its daily oil consumption, or about 800 BPD of crude oil, of the 1.6 million BPD produced domestically. Indonesia, on the other hand, can continue to export oil due to contractual relationships with other countries that require the government to do so. The graphic below shows oil production and the share of national exports from 2016 to 2030. Oil refineries are an essential aspect of energy infrastructure in terms of oil production and delivery. Due to a lack of refinery capacity, the country is forced to depend on imports of crude oil and fuel (Persia, 2018).

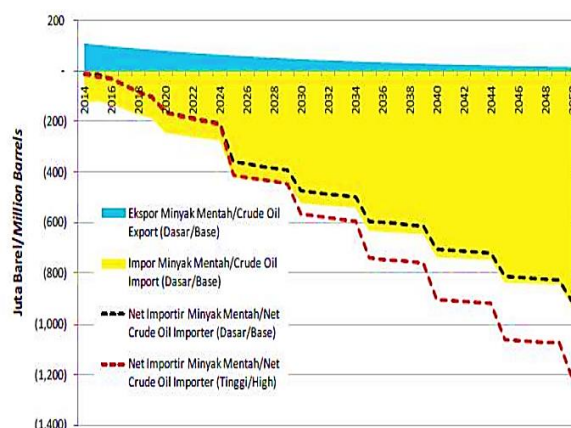


Figure 1. Indonesian Petroleum Export and Import Projection Chart (Mineral, 2016)



The volume of crude oil imports increased from year to year. Balongan is the country's last refinery to be built. The overall capacity of national oil refineries currently reaches 1,167 BPD (production design) from a total of ten refineries.

Based on research by Aziza Nur Persia (Persia, 2018), Indonesia's fuel needs reached 1.6 million barrels per day. However, Indonesia's oil refineries only have a capacity of 1.16 million barrels per day (BPD) and are only capable of producing 650 thousand BPD of gasoline. To reach the domestic demand for oil, around 950,000 BPD must be imported. In addition to imports, the state also imports crude oil for use in domestic fuel refineries. Because not all specifications of domestic fuel refineries are suitable for processing crude oil from Indonesia, about 40% of Indonesia's crude oil production is exported.

The volume of crude oil imports increased from year to year. This obstacle has been exacerbated by the absence of a further refinery since the construction of the Balongan refinery (1994). Of the total ten refineries, the overall capacity of domestic oil refineries currently reaches 1,167 BPD (production design) (Persia, 2018).

Currently, non-Pertamina refineries have been installed, increasing the ability to produce fuel by around 681 thousand BPD (Sarasvati, 2018). The refinery, which is located in Tuban by PT TPPI, has a capacity of 1000 mbcd. A refinery is a CPM storage facility. These facilities include (Persia, 2018):

1. storage facilities such as storage tanks and floating tanks;
2. distribution facilities such as pipelines, terminals, and ports; and
3. other related infrastructure.

Legal or Regulatory Basis for Strategic Petroleum Reserve (SPR) in Indonesia

Oil is the primary natural resource to meet today's global and national energy demands. Oil in the Indonesian Mining Law Area is a national resource managed by the government. These operations cover a wide range of oil industry operations, including upstream (exploration and exploitation) and downstream (production) (processing, transportation, storage, and marketing). The government, as a representative of the state, plays a significant role in controlling supply and consumption.

After a long time since the enactment of the Oil and Gas Law, the government passed Law no. 30/2007, which regulates energy. These rules define different types of reservations, including CPM and their conditions. The DEN regulates the agency assigned to determine the type, number, time, and location of BPS. According to PP No. 79/2014 concerning KEN, CPM is given to maintain national energy security in accordance with fuel energy efficiency. BPS will be delivered in stages based on economic conditions and the capacity of the state budget. According to Presidential Decree 41/2016 concerning Krisdaren, CPM is a reserve that will be issued as an action to overcome Krisdaren. This term refers to the method of SPR release.

According to Presidential Decree No. 22 of 2017 concerning RUEN (National Energy General Plan), one of the national energy problems is the lack of availability of SPR, which plays an essential role for the state in reducing the economic, political, and social impacts of krisdaren. This scarcity reduces Indonesia's energy security and weakens the bargaining position of the country's security, defense and trade politics compared to other countries.

The following are the regulations that underlie the SPR study:

1. Energy Law of the Republic of Indonesia No. 30/2007
2. PP Number 79 of 2014 concerning National Energy Policy (KEN) articles 13 to 16



3. APSA Presidential Decree No. 7/2013
4. Presidential Decree 41/2016 concerning Procedures for Determining and Resolving Energy Crisis and/or Energy Emergency.

All these requirements indicate that the SPR should be built as soon as possible. However, with the articles in PP No. 79/2014, which regulates the formation of the SPR, it is immediately feasible to adopt special rules governing the growth of the SPR under the protection of the PP law. So, to build the SPR, the government needs a solid legal umbrella that declares itself to be different from Perpres but PP.

This rule is a commitment and effort to develop SPR. In addition, it is intended to avoid or overcome problems in sectors that are not covered by Law n. 30/2007 on Energy or PP 79/2014 on KEN. As a result, if the president changes, the PP cannot be shaken or changed. So, the SPR rule is relevant if it is in the form of a PP, not a Presidential Decree.

The Urgency of the Development of a Strategic Petroleum Reserve (SPR) or Oil Buffer Reserve in Indonesia

As one of the efforts of national resilience and resilience, SPR must be strategically located and able to cover a wide area. Furthermore, security elements must be considered when selecting a location to minimize sabotage by outsiders. The following is an inspection of the SPR site (Persia, 2018).

1. Within the territory of the Unitary State of the Republic of Indonesia, not abroad for reasons of speed of circulation and security.
2. Infrastructure for management and distribution
3. Close to an oil refinery
4. Close to the port for simple distribution
5. Nearby locations with high consumption
6. Near national borders (from the defense side)

Maintaining energy security is very important in the interest of providing national energy reserves in accordance with the legal basis. Energy security refers to the capacity of a country to meet its energy needs in the face of fluctuations in foreign supply over time. However, Indonesia currently only has operational oil reserves, not strategic oil reserves that can be used at any time (CNN Indonesia, 2015). Currently, the supply of strategic oil reserves is only a discussion, with the government's plan to develop strategic fuel reserves for a period of 15 days over three years requiring a budget of Rp. 23.2 trillion (Kementerian ESDM, 2016).

Looking at the current global conditions, particularly related to world oil reserves, these reserves are currently starting to depreciate in line with the increasing demand for oil. Many countries are concerned about global production capacity to meet demand in the coming years. Future oil supply constraints may have a role in oil supply. Middle Eastern countries are the world's top oil producers, accounting for about 35% of global oil demand (SATRIA, 2018).

As a result, some oil-importing countries are trying to approach oil-producing countries to ensure a long-term supply of oil needs.

His strong dependence on resources made him politically vulnerable. Some of the variables that can cause disruption of the oil supply are as follows (Rahman, 2011):



1. Geopolitical tensions and terrorist threats remain high in some countries, especially oil-producing countries.
2. Natural disasters that disrupt supply line access are still possible.
3. Oil resources are spread over many countries, and investors are prohibited from entering due to legal constraints in each country.

The mismatch between expanded capacity and rising global oil demand could result in smooth supply disruption. Domestically, Indonesia's status as a net oil importer, as well as the lack of oil and gasoline infrastructure, adds to the vulnerability of the oil supply. Indonesia experienced an oil boom between 1973 and 1980 (Zaenab, 2018).

However, the oil boom at that time had not been fully utilized by this country. The government did not invest part of the oil money at that time but channeled it into industries not related to the oil and gas business. Pertamina's Technology Division, for example, developed into the agency for the Assessment and Application of Technology (BPPT), then the Nusantara Aircraft Industry, which is now PT Dirgantara Indonesia. Unfortunately, the initiative did not produce a tantalizing product. Indeed, the government encouraged lending at the time by forming a Consultative Group on Indonesia (CGI) and guaranteeing oil revenues (Indirasardjana, 2014).

So far, oil and gas infrastructure for oil and gas production is still underdeveloped, let alone neglected. So far, Indonesia's oil and gas infrastructure has lagged far behind the country's increasing use of oil and gas. Such is the case with Indonesian oil refineries, which are very outdated, understaffed, and well below projected demand. The current capacity of Indonesia's oil refineries is estimated at 1,167 million barrels per day, but only 719 thousand barrels per day can be processed. With daily fuel consumption of 1,359 million barrels, Indonesia still needs to import 640 thousand barrels of oil (Data, 2015).

With Indonesia still dependent on imports, strategic stocks of gasoline and crude oil are needed to ensure national energy security. However, Indonesia now has an active fuel reserve belonging to PT Pertamina (Persero), which is capable of meeting gasoline needs for 22 days. Accessible storage tank for strategic oil reserves has a capacity of only 3.58 days (Pratiwi, 2016).

With Indonesia still dependent on oil imports, the government should progressively build strategic oil reserves and start building storage tanks.

Natural resources in Indonesia, especially oil and natural gas (oil gas), are national resources that must be able to support the national defense system at all times. Therefore, a new paradigm is needed in the strategy for managing Indonesia's oil reserves, such as in national border areas.

The Expert Team of the Minister of Energy and Mineral Resources for the Economics of Natural Resources, Sampe L. Purba, revealed this in a hybrid manner during the Open Promotion Session at the Bogor Defense University Campus. With a dissertation entitled "Policy on Management of Oil and Gas in the Aceh Andaman Sea Border Region from the Perspective of National Defense." The emphasis and purpose of the research are three fundamental questions (Notonegoro, 2016).

The first is connected with the geostrategic location of Aceh at the end of the Malacca Strait as the entrance to the Asia Pacific region from the Indian Ocean. Second, related to the potential of oil and gas resources in border areas far on the high seas, the supporting infrastructure that currently exists on land. Finally, in the context of national security in border areas, public policy choices must reconcile the special and micro interests of investors with the government's larger and macro objectives.



Based on the findings of Sampe's research, in terms of oil and gas management strategies at the border from the side of national defense, the Defense and Security component has the highest score (24.40 percent) when compared to the non-defense section. The economy has the most significant non-defense component, 22.74 percent. Meanwhile, among other public policy alternatives, infrastructure ranks first with 29.87 percent, followed by regulation with 28.56 percent.

Oil and gas infrastructure must be designed within a public policy framework so that it is in line with and supports each other's defense. As a result, there must be regulatory tools under the umbrella. Oil and gas contract models in border areas must also be specific in nature in order to meet the characteristics of the national military, technology, and economy.

The fall in world oil prices is seen as an excellent opportunity for all countries to take advantage of it to increase the supply of oil reserves. Unfortunately, given the lack of infrastructure for Strategic Petroleum Reserves (SPR) to absorb extra oil reserves at relatively low prices, this is difficult to do in Indonesia.

Komaidi Notonegoro, an energy observer at the Reforminer Institute, indicated that the demand for SPR is not only related to imports of crude oil (Notonegoro, 2016). SPR was significantly more critical in the context of energy security than in the context of imports. Other countries often have an infrastructure. The lack of SPR facilities will have an impact on the government because it is unable to absorb or take advantage of low oil prices. With the current conditions, even renting SPR facilities from other countries is a challenge considering that each government will optimize the existing tanks.

To ensure energy security, each government must maintain energy or fuel reserves for a certain period of time, such as three months, six months, or twelve months. Even though Indonesia is only 22 days old, Pertamina's oil reserves do not belong to the state.

In addition to anticipating import absorption, SPR must be available for various emergency situations. For example, from the economic side of non-military threats. The economy is not just a weapon of internal stability; it also affects the negotiating attitude of each country in international affairs. Economic threats have the potential to undermine the defense of a country. Economic hazards can be characterized as internal or foreign.

Excessive inflation and unemployment, poor infrastructure, economic inequality, and other problems can pose domestic dangers. Meanwhile, external hazards can manifest as metrics of poor economic performance, low competitiveness, and high dependence on third parties. Furthermore, in a pandemic scenario, for example, if the import route is stopped due to the Covid-19 outbreak, this will affect the local oil supply. When the fuel ran out, the economy failed, people couldn't move, and a national panic ensued.

Conclusion

The Battle of Ambarawa or more commonly called Palagan Ambarawa, is one of the battles that took place in the cities of Ambarawa and Magelang between the Allied (British) forces against the Indonesian forces (TKR) to maintain the independence that had been achieved by the Indonesian nation and wanted to be recaptured by the allied forces by piggybacking on the Dutch NICA army who wanted to regain control of the archipelago. The reason the allies came to Indonesia was to release Dutch prisoners of war and return the Japanese army to their home countries. After Japan declared the defeat of World War II, then the allies armed the prisoners of war, and this became the leading cause of the anger of the Indonesian nation, causing the Palagan Ambarawa to occur.



The Total People's War Strategy or The Total People's Incumbent System with the Supit Urang tactics applied by Colonel Sudirman at the Battle of Ambarawa brought success and victory to the TKR side, apart from the factors of the superiority of infantry tactics and techniques, the superiority of the number of personnel deployed, the management of field administration operations Field logistics and better field health as well as the integration of operations by involving all components of the nation.

The victory in the battle in Ambarawa had a significant positive impact on the struggle for the nation's daughters in cultivating a sense of trust in one's own strength in continuing his struggle, both militarily and politically, especially the struggle in AMB (Dutch Military Aggression) I dated July 21, 1947, and AMB II December 19, 1948. History records that almost all the problems that occurred after Ambarawa by developing and using resistance strategies and tactics in Ambarawa against the invaders so had excellent operation planning, so the time span of resistance was not so long with the number of victims being armed by themselves could be minimized. The militancy of the TKR forces with the Classkaran struggle bodies in some areas was patriotic and heroic.

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