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Nickel Mining Business Problems and the Solution in Indonesia

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Abstract

This study reviews the problems regarding the principle of industrialization benefits in the management of nickel by mining companies in Indonesia. Nickel management carried out by mining companies must provide benefits for companies, communities, and for the country. The problems and impacts of the nickel mining industry are serious issues that must be considered by the government in relation to environmental damage and employment. For this reason, nickel management by companies based on environmental social governance and downstream programs has become a new concept in nickel management so that nickel resources in Indonesia can attract companies to do business in Indonesia and increase the level of welfare of the Indonesian people. The purpose of this research is to find out and analyze related to the implementation of environmental social governance and downstream in the management of nickel by mining companies in Indonesia. The research method used is qualitative with a descriptive approach. The results of this study indicate that the principle of industrialization benefits in managing nickel by mining companies can be realized if mining companies are able to apply the concept of environmental social governance in managing nickel. The concept of environment social governance in managing nickel does not only pay attention to the environment, but mining companies are required to pay attention to social and corporate governance in managing nickel.

Keywords
Nickel; Mining Business, Problems and Solutions

I. Introduction

Indonesia's abundant natural resources have succeeded in attracting companies to engage in the mining sector. The active production of minerals such as coal, nickel, copper, tin and bauxite has made Indonesia a major player in the international mining industry. Interest in nickel-type minerals is also increasing with the discourse that nickel will be used as the dominant component in the production of electric vehicle batteries. As the largest nickel producing country in the world, this momentum can actually be used as a way for Indonesia to increase the country's income and foreign exchange. The company's high interest in nickel is of course inseparable from the myriad benefits possessed by nickel-type minerals.

In Indonesia, nickel is often used by various industries, such as being used as a base material for stainless steel, steel alloys, monel alloys, anti-rust coatings to the catalyst industry. Apart from that, the increase in interest in nickel is also due to the emergence of discourse on the production of electric vehicle batteries which use nickel as the main component. This promising nickel business opportunity is of course an attraction for nickel for companies seeking profits from the nickel business. The legality of nickel mining activities is inseparable from the construction of laws that allow companies to carry out mining activities.

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As stated in Article 36 Paragraph (1) Letter B Law Number 3 of 2020 Juncto Article 76 Paragraph (1) Letter B Law Number 4 of 2009 concerning Mineral and Coal Mining. The a quo provision stipulates that those authorized to carry out construction, mining, management and refining activities, as well as transporting and selling mining products are companies that have a Mining Business Permit (IUP) or a Special Mining Business Permit (IUPK) for production operations. Apart from that, based on Article 96 Letter B Juncto Article 123 A Paragraph (1) Law Number 3 of 2020 concerning Mineral and Coal Mining which expressively states that holders of IUP or IUPK are required to carry out management and monitoring of the mining environment, which includes reclamation and/or post-mining activities up to a level of 100% (one hundred percent) before returning the owned Mining Business Permit Area (WIUP) or Special Mining Business Permit Area (WIUPK). This legal construction serves as validation for the company to continue running the nickel mining business in Indonesia while managing the quality of the environment and the ecosystem of the area around the mine so that it can function again according to its designation. Contrary to expectations, at the implementation level this practice actually had a bad impact on Indonesia. This legal construction serves as validation for the company to continue running the nickel mining business in Indonesia while managing the quality of the environment and the ecosystem of the area around the mine so that it can function again according to its designation. Contrary to expectations, at the implementation level this practice actually had a bad impact on Indonesia. This legal construction serves as validation for the company to continue running the nickel mining business in Indonesia while managing the quality of the environment and the ecosystem of the area around the mine so that it can function again according to its designation. Contrary to expectations, at the implementation level this practice actually had a bad impact on Indonesia.

In 2014 – 2019 it was recorded that 143 people, dominated by children, had become victims of ex-mining pits that had not been reclaimed, even up to 2019 there were 3,033 ex-mining pits that were left without rehabilitation. Mining business activities which are closely related to the condition of the surrounding environment have had an impact on environmental damage which has caused a decrease in environmental quality such as air pollution due to dust and smoke and water pollution due to mine waste containing toxic substances. Apart from that, in fact as a whole, there are 55,000 hectares of abandoned ex-mining land while the current reclamation process has only reached 1.25% or around 6,500 hectares.

As a non-renewable natural resource, of course, nickel has limited availability to be utilized for both domestic and foreign interests. If nickel is not used properly, it is not impossible that domestic nickel reserves will run out and will have a major impact on decreasing the country's foreign exchange sourced from nickel significantly. It becomes an anomaly when the government does not provide deterrent sanctions for holders of mining business licenses or miners without permits in managing nickel with all the impacts and risks arising from mining activities. Whereas in fact the law must provide welfare, usefulness, safety, and protection for the entire Indonesian nation and investors are no exception.

Various state efforts to increase revenue and attract investors through nickel mining activities based on benefits should be a reference for the state to provide benefits and welfare for communities around mining areas and also nickel businesses. Therefore, the state requires mining companies to manage nickel based on environmental social governance so that the legal role is able to deliver nickel management that has a positive

impact on the environment, community welfare and business governance. This is also in line with the mandate of Article 28 H Paragraph (1) of the 1945 Constitution which ratio-legally states that every person has the right to live in physical and spiritual prosperity, to have a place to live, and to have a good and healthy environment. Apart from that, environmental social governance-based nickel management also continues to encourage the state to increase state foreign exchange sourced from the mining sector, because through the concept of environment social governance the company will prioritize green investment which in the end will not only provide benefits for the company but the state can also benefit from it. . The purpose of implementing this concept is also in line with what is outlined in Article 33 Paragraph (3) of the 1945 Constitution that the natural wealth contained in Indonesia should be used for the greatest prosperity of the people. because through the concept of environmental social governance the company will prioritize green investment which in the end will not only provide benefits for the company but the state can also benefit from it. The purpose of implementing this concept is also in line with what is outlined in Article 33 Paragraph (3) of the 1945 Constitution that the natural wealth contained in Indonesia should be used for the greatest prosperity of the people. because through the concept of environmental social governance the company will prioritize green investment which in the end will not only provide benefits for the company but the state can also benefit from it. The purpose of implementing this concept is also in line with what is outlined in Article 33 Paragraph (3) of the 1945 Constitution that the natural wealth contained in Indonesia should be used for the greatest prosperity of the people.

II. Review of Literature

2.1 Definition of Business

Business in a broad sense is a general term that describes an activity and institution that produces goods and services in everyday life (Amirullah, 2005:2). According to Bukhori Alma (1993:2), business is a total number of businesses which include agriculture, production, construction, distribution, transportation, communication, service businesses and government, which are engaged in making and marketing goods and services to consumers. According to Louis E. Boone (2007: 5), business (business) consists of all activities and businesses to seek profit by providing goods and services needed for the economic system, some businesses produce tangible goods while others provide services. While behavior is a person's actions in everyday life.

2.2 Definition of Mining

Mining is an activity carried out by digging into the ground (earth) to get something in the form of mining products. 1 Based on Article 1 number 1 Law Number 4 of 2009, mining is part or all of the stages of activity in the framework of research, management and exploitation mineral or coal which includes general investigation, exploration, feasibility study, construction, mining, processing and refining, transportation and sales, as well as post-mining activities. This definition is in a broad sense because it includes various mining activities whose scope can be carried out before mining, mining process, and after mining process.

The definition of mineral mining and coal mining is clearly different. Mineral mining is the mining of a collection of minerals in the form of ore or rock, excluding geothermal, oil and natural gas, as well as ground water. Meanwhile, coal mining is the mining of carbon deposits contained in the earth, including solid bitumen, peat, and asphalt rocks.

2.3 Nickel Mining

Nickel was first discovered by Crostedt in 1751. The earth's core contains about 3% nickel while the earth's crust is 0.003%. The term Laterite itself is taken from the Latin "later" which means red brick, which was put forward by Buchanan Hamilton (1807). The term "laterite" can be interpreted as a deposit that is rich in iron-oxide, poor in silicate elements and is found intensively in weathered deposits in tropical climates (Eggleton, 2001). There are also those who interpret nickel laterite as weathered deposits that contain nickel and can be economically mined (Gleeson et al, 2003). To mine nickel minerals requires sufficient knowledge of mineral deposits, mining technology, processing methods and costs required.

Feasibility study activities are carried out to prove the prospects owned prior to the planned ore mining. The price of selling mining products is determined by the market price where the bidding occurs. Market price movements reflect supply and demand conditions in the market. These price fluctuations are different from mining costs which are relatively constant or increase due to inflation. The main mining costs which consist of the costs of the mining itself, processing, transportation and refining will reduce the mining company's revenue and leave profit margins. Mining companies must be able to survive conditions of fluctuating selling prices and uncertain margins. The company's strategy in the form of mine planning determines its success. The strategy can be in the form of changing the cut off grade, changing the method of mining and or implementing a cheap and efficient technology so that the mine continues to generate profits. (Hustrulid, 2013).

2.4 Nickel Laterite Definition

Anonymous (2008) Nickel ischemical elementsdeep metallicperiodic table which has the symbol Ni dan atomic number28. Nickel has corrosion-resistant properties. In its pure state, nickel is malleable, but when combined with iron, chromium, and other metals, it can form hard stainless steel. While nickel laterite, is nickel that is formed from the results of laterization, Nickel is a mineral that has high economic value because in the present and in the future the demand for nickel is increasing apart from other needs whose supplies are increasingly limited, thus encouraging entrepreneurs to open nickel mining.

2.5 Laterite Nickel

Laterization is a process of chemical weathering in humid (tropical) climate conditions that lasts for a long time with relatively stable tectonic conditions, forming the formation of thick regolith layers with distinctive characteristics (Golightly, 1979):

A. The conversion of the main minerals and the release of some chemical components.
B. Washing of mobile components.
C. Residual collection of immobile or insoluble components.
D. Formation of new mineral formations that are more stable in the depositional environment.

III. Research Method

This paper was compiled using qualitative research methods, namely the data source approach in the form of secondary data from literature and analysis in the form of descriptive. Through this method is expected to be able to dissect the phenomenon under study. This qualitative research is only describing and describing findings in the field without requiring a hypothesis. This method also raises facts, circumstances, variables, and phenomena that occur when the research takes place and presents data as it is. This paper is

also accompanied by writing a case study through several stages, namely literature study, problem observation, and analysis which involves elaboration of the literature and the problems that occur. Thus case studies can be used to achieve a variety of purposes, such as to provide a description, test theory, or generate theory. The descriptive approach is manifested by the presence of complexly arranged descriptions and word for word analysis of the referenced literature to construct research results. The descriptive nature of qualitative research means that research will attempt to make a systematic, accurate, and factual overview of facts, characteristics, and relationships between the phenomena studied.

IV. Result and Discussion

Nickel is Indonesia's strategic mineral commodity where Indonesia is included in the top 10 nickel producing countries in the world with total reserves of 5.74% of the world's total reserves. US Geological Survey data states that out of 80 million metric tons of world nickel reserves, nearly 4 million metric tons are stored in Indonesia, so that Indonesia is ranked 6th in the world with the largest Nickel deposit in the world. Based on data from the Ministry of Energy and Mineral Resources in 2020, the resilience of Nickel reserves in Indonesia reaches 2.6 billion tons of reserves with a reserve life of 27 years. Global demand for Nickel is expected to reach 4.6% in 2025, and continue to increase until 2030. Nickel in Indonesia is generally found in the form of lateritic nickel deposits (Fe & Co),

4.1 Nickel Management in Indonesia

Nickel is part of the mineral reserves which are non-renewable natural resources (non-renewable resource bases), therefore its management must be maximized in order to produce greater added value for the country. The mistake that has been made by Indonesia as a resource owner is by only selling nickel in the form of ores or raw minerals (ores/concentrates) which causes losses due to the low value of nickel ore and to correct this mistake, currently the government through Law Number 3 Year 2020 concerning Mineral and Coal Mining begins to require mining companies to process mining products domestically and prohibits mining companies from exporting nickel ore.

Based on a survey conducted by the United States Geological Survey (USGS) in January 2021, Indonesia has been designated as the world's largest nickel producing country. In 2021 Indonesia has produced 760,000 metric tons of nickel which beats the Philippines, Russia, New Keledonia, Australia and other countries. The report published by the Central Bureau of Statistics noted that in 2017 nickel production reached 20.96 tons, 2018 reached 38.33 tons and 2019 reached 60.94 tons which reached the highest nickel production in Indonesia in the last 4 years, but in 2020 Indonesia's nickel production has decreased so that in 2020 Indonesia's nickel production only reached 48.04 tons. The transportation sector as the highest carbon contributor,

The need for nickel today in the electric car segment is around 100,000 tons to 200,000 tons. In future, the demand for nickel in the electric car segment is projected to reach 1.7 million tons. This is very reasonable if many investors pay attention to Indonesia, because Indonesia is one of the countries that has abundant nickel reserves. The high number of nickel production in the mining business is evidence of the high demand for nickel-type minerals. Especially the discourse on the presence of nickel as the main component of electric vehicle batteries. The use of nickel-based batteries is not only a global discourse, but also a discourse for Indonesia to utilize nickel resources.

One of the electric vehicle industry ecosystems in Indonesia is being worked on by a consortium consisting of LG Energy Solution, LG Chem, Posco and Huayou Holding and also involving PT Battery Industry. Indonesia, which has four BUMN members consisting of Inalum, Antam, Pertamina and PLN. The existence of nickel is increasing after the discourse on the use of nickel as the main component in electric vehicle batteries. but long before that, in Indonesia nickel had become a material that had many benefits for the domestic industry. Starting from the automotive industry, building construction, military, to components in electronic devices, nickel is often used as a component in the industry. In the automotive industry, nickel is often processed into stainless steel which is used to make vehicle frames. then in the building industry nickel is trusted as a metal material to be used as part of non-combustible buildings. In addition, nickel is also often used by the electronics industry by processing nickel to be found in a number of equipment such as smartphones and nano components in electronic objects.

The application of environmental social governance-based nickel management by mining companies will certainly be a supporting part in optimizing the utilization of nickel resources in Indonesia. because through the concept of environmental social governance, mining companies will process nickel using effective and efficient technology and methods so that its management can minimize the impact of environmental damage on mining activities carried out by mining companies. This is of course not only beneficial for the company but will also have a positive impact on the community around the mining area.

4.2 Problems and Issues related to the Nickel Industry

Mining is basically an effort to manage existing natural resources so that they can be used to improve people's welfare, however the presence of a mining company not only has a positive impact but on the contrary also has negative impacts, one of which is damage to the physical environment and damage to the natural environment in in general. Forms of physical damage to the environment can be seen by various indicators which include forest destruction, increased dust pollution, increased critical land, increased occurrence of landslides, land damage, highway damage, and clean water pollution. In more detail, the indicators of physical environmental damage caused by nickel mining companies can be described based on the following variable indicators:

- Degradation of the Forest Environment The forest environment is a reforestation area that greatly contributes to maintaining the balance of the ecosystem of living things in forest friends. Therefore the existence of forest areas is very important in maintaining the continuity of all living things including humans.
- Increase in Air Pollution Every individual has the right to clean air around him, however, the presence of a mining company in Mondoe Village, Palangga Selatan District, has created problems including an increase in air pollution as a result of nickel mining activities.
- Increasing Critical Land Mining activity is the process of extracting and extracting mineral materials from the earth in the form of minerals. Therefore, because mining materials are minerals, they can certainly cause critical land from former mining.
- Causes of Landslides Mining activities basically besides dredging the soil that is on the surface of the land, also dredging the soil that is in the earth. In addition, in mining, soil is also taken from the slopes of mountains or hills so that it can cause landslides.
- Land Damage Land damage is also one aspect of the impact of nickel mining activities. Land as part that is explored and exploited has a great potential to be damaged by mining activities.

•Damage to Highways Highways are one of the public facilities needed by the community to connect one area to another. The existence of highways can make it easier for people to access their needs from other areas. This condition illustrates that the road is a public facility that is very important for the general public.

•Clean Water Pollution Clean water is a basic need for the community to survive. Therefore, the availability of clean water for the community is a necessity that must be fulfilled. However, the presence of companies in the Mondoe Village area affects the availability of clean water in Mondoe Village.

Then in terms of employment, the presence of Chinese workers in Indonesia creates vulnerabilities for the Indonesian government due to social jealousy between Indonesian and Chinese workers both in terms of salary and treatment. On the other hand, there are still many Indonesian people who have not found work but the government has brought in thousands of Chinese workers. This got worse when the arrival of Chinese workers was still allowed to enter Indonesia during the pandemic. Meanwhile, China's investment and presence in the nickel management sector has in fact not been able to make the people of Sulawesi prosperous. And this can lead to the destruction of public trust in a government that seems to be pro-foreign.

Apart from looking at the potential that Indonesia can capitalize on, we also need to pay attention to a number of important issues accompanying the nickel ore export ban policy. The issues referred to include: (a) loss of state revenue; (b) transfer of added value, and; (c) employment.

1. First, Indonesia needs to consider the potential loss in state revenue.Nickel export banthe risk of reducing state tax revenue from companies and export duties so that the downstream nickel industry must be able to cover these losses. One effort that can be done is to create incentives to attract investors. Incentives can be in the form of tax holidays or tax holidays for investors, namely reductions to corporate income tax (PPh) exemptions within a certain period of time. In addition, government support in the form of ease of licensing to streamline the processing of investment permits can also minimize losses from reduced export earnings.

   Meanwhile, several foreign investors have shown their interest in investing in nickel refining and processing in Indonesia. Chinese company,GEM Co.,has an investment commitment of $30 billion and is willing to be involved in a partnership project for the development of the Indonesian nickel industry. In mid-April 2022,Chinese battery giant CATLalso started exploring investments in Indonesia for nickel mining and production of electric vehicle batteries.
2. The second issue is the transfer of added value from mining companies to smelters. The local mining sector needs to deal with the issue of the domestic selling price of nickel and the metal assay assessment system. The export ban forces mining companies to sell their nickel ore to domestic smeltersat a lower pricein the midst of high world nickel prices today. Apart from that, there are alsoinjustice in the nickel metal assay grading systemfelt by national entrepreneurs. This injustice can be seen when entrepreneurs who have nickel mining business licensesrequired to use a surveyor appointed by the government, while foreign smelter investors may appoint their own surveyors. This has an impact on differences in the results of analysis of nickel content, where the results of the analysis of the buyer surveyor are often far below the results of the analysis of the miner surveyor. Even though the government needs to provide convenience for foreign investors, the government still has to ensure that its policies do not harm domestic entrepreneurs.

3. The third issue relates to employment. Although the nickel ore export ban is claimed to have the opportunity to increase employment, especially in the smelting sector, the government also needs to think about the impact of downsizing the mining sector. Apart from the absence of sufficiently credible data describing the absorption of Indonesian workers in the nickel mining sector, dataBPSstated that the proportion of the Indonesian manufacturing industry workforce in 2018-2020 had not increased significantly. As a result, it is not certain that the export ban will benefit society in this aspect.

   Indonesia's move to ban nickel ore exports is not a risk-free step. Indonesia's persistence will only bring benefits if it is matched by giving special attention to and managing risks from the Indonesian government on tax issues, ease of investment, transfer of added value from mining companies to smelters, and a real increase in the workforce. Synergy is needed in cooperation to overcome risks and take advantage of the potential related to Indonesia's nickel export ban policy.

4.3 Added Value of Nickel through Smelters

The abundant mineral resources cannot be managed optimally to increase state revenues and prosper the Indonesian people, which originate from mineral mining contained in the country. This is because most mining companies in Indonesia often operate upstream by exporting ore (raw minerals) that have a low selling value. For more than 40 years, Indonesia has implemented this practice, earning Indonesia the nickname as the exported of law material specialist. As a country rich in mineral resources, the mining sector, especially minerals, should be able to make a large contribution to state revenues, but at the practical level this contribution is still relatively small.

This is evidenced by the Indonesia Mining Association (IMA) which states that in the last 10 years (2005-2012), the average state revenue originating from general mining only reached around IDR 60.42 trillion or only 6.16% of the total state revenue. Viewed from the state revenue side, raw mineral export activities so far have played an important role in Indonesia's development, but over time the government became negligent and allowed the exploitation of natural mineral resources for export which ultimately led to environmental damage, reduced reserves and disruption of resilience. mineral. In order to take decisive action as a result of this over-exploitation, the government began enacting a policy banning the export of raw minerals starting January 12, 2014.

The logical consequence of the export ban is for mining companies to process all raw mining products domestically through smelters built by mining companies. The main reason for the formation of regulations for companies to manage minerals is due to the export of mineral ore which has continued to increase since 2008 but its existence has not triggered the development of the downstream mining sector. In other words, Indonesia as the owner of nickel resources will suffer losses because nickel reserves are depleted and the low selling price is not able to increase state revenues, but countries that import Indonesian nickel experience multiple benefits.

Based on the Regulation of the Minister of Energy and Mineral Resources Number 11 of 2019 concerning the Second Amendment to the Regulation of the Minister of Energy and Mineral Resources Number 25 of 2018 concerning the Business of Mineral and Coal Mining, as of 1 January 2020 Indonesia has fully reinstated the export ban on nickel ore. This policy stems from Law Number 4 of 2009 concerning Mineral and Coal Mining which requires every mining company to increase the added value of minerals through managing and refining minerals in the country.

Mineral management policy reform is aimed at encouraging a shift in mineral management from upstream to downstream. Apart from imposing obligations on mining

companies to carry out management, this regulation also requires business license holders and work contract holders to establish domestic smelters, and prohibits companies from exporting raw minerals. However, at the practical level, the downstream policy in Indonesia is not going well, because the mineral downstream policy is still having problems integrating upstream mining operations and downstream mineral management operations, both technically and financially.

4.4 Downstream Nickel Is A Solution To Encouraging Investment

Downstream mining is part of the industrialization process. Industrialization drives the process of transformation from a country with a high level of dependence on its natural resources to become an independent country from an economic standpoint for the prosperity of the people. The success of domestic industrialization cannot occur only with the support of the downstream mining sector, but must also be supported by the development of more downstream industriesor the domestic manufacturing industry that will produce the final product for consumption by the public. The success of mining downstream itself is largely determined by policies and technical regulations in its implementation by considering the provision of raw materials, land, labor, energy, infrastructure, technology, operational and maintenance activities, licensing systems, and investment financing activities.

The mineral downstream policy is one of the fiscal tools to create added value for minerals, increase state revenues, encourage economic growth, create jobs, and prosper the Indonesian people in a just and equitable manner. Downstreaming is often called downstreaming or value-adding, which means efforts to reduce exports of raw materials and instead encourage domestic industries to use these materials because they increase domestic added value (while creating jobs). If it is necessary to export, then what is exported is finished goods, the result of processing the raw materials.

The mineral downstream policy is intended to increase the economic value of goods, but without strengthening the production (supply) base upstream, domestic smelters will have difficulty obtaining raw materials to be processed into products with high added value. The ban on the export of raw minerals is not meant to put a brake on the production of ore or raw minerals, but rather in order to maintain the continuity of the supply of raw minerals in the long term for the needs of domestic smelters. The positive impact of the added value of downstream nickel is the increase in added value in the development of the downstream mineral industry Gross Domestic Product (GDP). and Gross Regional Domestic Product (GRDP), Job opportunities, Increasing technological capabilities and human resources for mineral exports, and Growing the national economy.

Investments in smelter construction projects in Indonesia show interest from foreign investors, one of which is Elon Musk, a world electric car icon entrepreneur who has directly expressed his open interest in nickel products from Indonesia and LG Solution from South Korea which has signed an Investment Agreement (MoU) of US$ 9.8 billion equivalent or Rp. 142 trillion for the development of an integrated nickel industry in Indonesia. Chengxin Lithium China announced it would take a 65 percent stake in a US$350 million or Rp5 trillion lithium project in Indonesia to build overseas production capacity. factory project that will make lithium chemicals for electric vehicle (EV) batteries and located in the Indonesia Morowali Industrial Park (IMIP) in Central Sulawesi

Efforts to increase the added value of minerals, especially Nickel, are in the form of smelters. Smelter development needs to be accompanied by infrastructure development. The government needs to provide support for infrastructure development, especially energy generators, smelter land, import duty and tax incentives for a certain period of time,

as well as legal certainty over the mining production period as a guarantee for smelter raw materials to support the industry in realizing downstream towards industrialization. Increase in Coal Added Value is an activity of developing and/or utilizing coal to improve coal quality with or without changing the physical or chemical properties of the original coal. The related settings can be seen in:

- UU no. 3 of 2020 concerning Job Creation (adjusting the process of Decision Number 91/PUU-XVIII/2020) Article 102 paragraph (1) states that IUP or IUPK holders at the Production Operation activity stage are required to increase the added value of Minerals in Mining Business activities through: Processing and Refining for metal mineral mining commodities; Processing for non-metal mineral mining commodities; and/or Processing for rock mining commodities.
- Article 170A, namely holders of KK, Production Operation IUP, or Metal Mineral Production Operation IUPK who have carried out Processing and Refining activities, which are in the process of constructing Processing and/or Refining facilities; and/or has entered into Processing and/or Refining cooperation with holders of Production Operation IUP, other Production Operation IUPK, or Production Operation IUP specifically for Processing and Refining or other parties carrying out Processing and/or Refining activities, may carry out sales of certain metal Mineral products unrefined in a certain amount abroad
- Article 167 PP No. 96 of 2021 concerning the Implementation of Mineral and Coal Mining Business Activities states that holders of IUP and IUPK in the production operation stage for Mineral commodities are required to carry out processing and/or refining to increase the added value of domestic Mining Minerals.
- PP Number 25 of 2021 Concerning the Implementation of the Energy and Mineral Resources Sector in Article 3 paragraph (1) stipulates that holders of production operation mining business permits, production operation IUPK and IUPK as Continuation of Contract/Agreement Operations for coal commodities carry out activities to Increase Coal Added Value in the country may be given certain treatment in the form of the imposition of a royalty of 0% (zero percent).

Downstreaming is closely related to the concept of added value and product competitiveness. The more downstream a product is produced from industrial activities, the higher the value or price. In the macroeconomic order, the more the activities of a production are reduced, the greater the contribution to the total gross domestic product of a country. In industrial practice, the concept of added value is the difference or ratio between the selling value of the product produced and all the cost components to produce the product in equivalent volume/weight units. The production cost structure per tonne of product is an accumulation of raw material prices, wages, management costs, productivity, taxes, depreciation and other costs which are often unforeseen. The lower the production cost structure, the higher the product's (or country's) competitiveness.

Regulation of the Minister of Energy and Mineral Resources No. 11 of 2019 requires every company to be able to process it first to raise local market prices before exporting, one of the obstacles faced regarding nickel processing in Indonesia is the lack of smelters to process nickel. Another obstacle is in terms of limited human resources, and many workers in Indonesia do not yet understand how to process nickel. Based on existing regulations, the government is more serious about increasing downstream nickel minerals. The implication of the existence of a nickel export ban policy for the Indonesian nation is that the construction of nickel refining facilities is increased, lithium ion battery (Li-ion battery) technology is growing in Indonesia, and increasing the attractiveness of foreign investment into the country.

V. Conclusion

Mining is basically an effort to manage existing natural resources so that they can be used to improve people's welfare, however the presence of a mining company not only has a positive impact but on the contrary also has negative impacts, one of which is damage to the physical environment and damage to the natural environment in in general. Forms of physical damage to the environment can be seen by various indicators which include forest destruction, increased dust pollution, increased critical land, increased occurrence of landslides, land damage, highway damage, and clean water pollution.

Then in terms of employment, the presence of Chinese workers in Indonesia creates vulnerabilities for the Indonesian government due to social jealousy between Indonesian and Chinese workers both in terms of salary and treatment. On the other hand, there are still many Indonesian people who have not found work but the government has brought in thousands of Chinese workers. This got worse when the arrival of Chinese workers was still allowed to enter Indonesia during the pandemic. Meanwhile, China's investment and presence in the nickel management sector has in fact not been able to make the people of Sulawesi prosperous. And this can lead to the destruction of public trust in a government that seems to be pro-foreign.

The nickel downstream program is one of the opportunities to transform the national economy, as well as a ticket to become a developed country. Because, first, Indonesia is a country that has the largest reserves of nickel ore in the world. Around 32.7% of global nickel ore reserves are in Indonesia, which is as much as 21 billion tonnes. Second, nickel is widely used in various industries, including the defense industry. In addition to stainless steel, nickel is also the main ingredient for lithium batteries, which are the main component of electric cars. Almost all electronic equipment requires batteries. So, it is only natural for Indonesia to have smelters and downstream industries, so that nickel ore can be processed and generate high added value to the national economy, both for export and for the domestic market.

References

Adrian Sutedi. (2011). Hukum Pertambangan. Jakarta: Sinar Grafika.

Ambadar J. (2008) “Corporate Social Responsibility Dalam Praktik di Indonesia”,(Jakarta: PT. Elek Media Komputindo Kelompok Gramedia.

Appeldorn Van L.J. (1996). Pengantar Ilmu Hukum. Jakarta: Pradnya Paramita.

Asshiddiqie Jimly.(2009). Green Constitution : Nuansa Hijau Undang-undang DasarNegara Republik Indonesia Tahun 1945. Jakarta: Rajawali Press.

Chyntia Damayanti dan Kartika Sari Dian Pratama. (2014).“Urgensi Pembangunan Smelteri Oleh Perusahaan Tambang di Indonesia Sesuai Amanat Undang-Undang Nomor 4 Tahun 2009 tentang Pertambangan Mineral dan Batubara”, Privat Law Edisi 6, h. 7.

Direktorat Jenderal Mineral dan Batubara, Grand Strategy Mineral dan Batubara : Arah Pengembangan Hulu Hilir Mineral Utama dan Batubara Menuju Indonesia Maju, 2021.

Gatot Supramono, (2012), Hukum Pertambangan Mineral dan Batu Bara di Indonesia, Jakarta, Rineka Cipta, hlm. 6

Haryadi Dwi. (2018). Pengantar Hukum Pertambangan. Bangka Belitung: UBB Press.

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Pasal 1 angka 4 Undang-undang Nomor 4 Tahun 2009 tentang Pertambangan Mineral dan Batubara

Ridwan Arifin. (2022). “Dari Nikel Sampai Jadi Baterai Mobil Listrik, Begini Proses Produksinya”, diakses dari https://oto.detik.com/berita/d-5784244/dari-nikel-sampai-jadi baterai-mobil-listrik-begini-proses-produksinya pada 15 Juli Pukul 14.41 WIB

Syahrir Ika, (2021). “Kebijakan Hilirisasi Mineral : Reformasi Kebijakan Untuk Meningkatkan Penerimaan Negara”, Jurnal Kajian Ekonomi Keuangan 1, no. 1 (2017), h. 51. 8United States Geological Survey, “Mineral Industry Surveys”.

Syahrir Ika.(2022).“Kebijakan Hilirisasi Mineral: Reformasi Kebijakan Untuk Meningkatkan Penerimaan Negara”, Jurnal Kajian Ekonomi Keuangan 1 no. 1 (2017), h. 43. 12 Asosiasi Pertambangan Indonesia, Kontribusi Pertambangan Umum Masih Minim, diakses dari https://www.ima-api.com/index.php?option=com_content&view=article&id=1381:kontribusi-%20pertambanganumum-masih-minim&catid=1:ima-news&Itemid=86⟨=id Pada 17 Juli Pukul 19.10 WIB 46