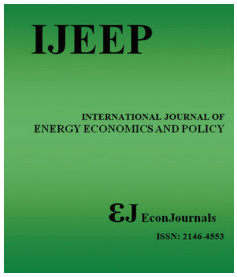

International Journal of Energy Economics and Policy

ISSN: 2146-4553

available at http: www.econjournals.com

International Journal of Energy Economics and Policy, 2019, 9(6), 79-85.

Effectiveness of Environmental Policy Enforcement and the Impact by Industrial Mining, Energy, Mineral, and Gas Activities in Indonesia

Kamal Hidjaz

Department of Law Science, Faculty of Law, Universitas Muslim Indonesia, Makassar, Indonesia.
*Email: kamal.hidjaz@yahoo.co.id

Received: 17 May 2019 **Accepted:** 18 August 2019 **DOI:** https://doi.org/10.32479/ijeep.8146

ABSTRACT

They are being polemic for Indonesia between implementing production and sustainability simultaneously, considering that Indonesia is a newly emerging country, which of course wants to be independent and also sovereign from the regional side as a unitary state and even financially independent to meet all the needs of the Indonesian people. The main challenge faced by Indonesia is pursuing maximum economic growth through the use of natural resources. The effectiveness of environmental law enforcement on the activities of the mining, gas, and mineral industry can run smoothly and smoothly concerning several fundamental aspects. On the other hand, mining activity is an effort to create jobs, improve the economy, which aims at equitable distribution of income through the absorption of labor in the sector of the mining industry. Environmental issues that are becoming a global issue require the government to take firm action against violators/perpetrators of environmental pollution to cause deterrent effects for others. The government can take legal steps through administrative, criminal, and civil considerations as a manifestation of creating environmentally friendly and sustainable production activities in the future.

Keywords: Environmental Policy, Environmental Law, Socio-legal Research
JEL Classifications: O44, Q5, Q56

1. INTRODUCTION

Environmental problems have become a national problem and are even becoming a global issue that does not seem difficult to resolve. Population growth and economic growth also have an impact on changes in consumption patterns of the worldwide community (Murdifin et al., 2019). So that along with the variety of changes, it also has an impact on environmental issues caused by one of them by waste. In 2017 the population of Indonesia had reached 261.89 million compared to 2000, which was 206.26 million. According to data from the Indonesian Ministry of Industry in 2016 the amount of B3 waste disposal, the remaining industry managed in 2017 amounted to 60.31 million tons and accumulated from 2015 only reached <40% of the target of the B3 waste management of 755.6 million tons in the year 2019. B3 waste is the largest produced by the mining, energy and mineral industries.

Mining activities are a significant contributor to liquid waste. The GDP generated from the mining and quarrying sector in Indonesia amounted to 167.7 trillion rupiahs in 2000, increasing to 1,028.8 trillion in 2017. The development of the mining industry, energy, and minerals increased the problem of waste. The sorting process uses a lot of water media, or even those carried out in rivers such as gold mining activities which directly dispose of their trash into the river without prior processing, as well as coal mining activities. In line with that, the environmental problems generated by waste originating from mining, energy, and mineral activities also have an impact on river water quality in Indonesia,

which is generally in a heavily polluted state. In 2018 as many as 25.1% of villages experienced water pollution, and their land contaminated around 2.7% of communities. The emergence of waste disposal in addition to having an impact on the environment also has an effect on health, therefore serious measures need to be taken in accordance with the targets of the sustainable development goals (SDGs) in which the SDGs target by 2030 to substantially reduce waste production through prevention, reduction reset and reuse. The waste contributes to greenhouse gas emissions that cause global climate change where climate change spurs natural disasters such as floods, landslides, tornadoes, droughts, and so on. Emissions in the waste sector tended to increase in 2000 with a record 60.1 million tons of CO_2e released in the environment and in 2016 it reached 97.9 million tons of CO_2e. Table 1 Shown the production of essential mining types and mineral excavations in Indonesia. Efforts made by the Indonesian government to combat environmental problems originating from industrial waste, including by allocating environmental protection budgets to the National Budget (national government expenditure) and the regional budget (regional government expenditure) (Mina, 2016). Indonesia as a country that is rich in natural resources, both renewable and non-renewable natural resources, of course, besides being an opportunity, it is also a challenge for Indonesia to play an active role in environmental conservation globally. In Article 33 of the 1945 constitution (paragraph 2) which is the main guideline and legal basis of Indonesia states that "the earth, water and natural resources contained therein are controlled by the state to be used as much as possible for the prosperity of the people." So that in the management of natural resource and energy wealth activities it is necessary to apply the principle of sustainable development followed by the application of laws that maximally protect nature, ecosystems and the survival of living things (Hatta, 1977).

On the other hand, it has become polemic for Indonesia between implementing production and sustainability, considering that Indonesia is a developing country which of course wants to be independent and also sovereign from the regional side as a unitary state and even financially independent to meet all the needs of the Indonesian people. The main challenge faced by Indonesia is pursuing maximum economic growth through the use of natural resources which aims to accelerate equity and social justice and to reduce the income gap between regions in Indonesia as the country with the most islands in the world.

The leading players in the petroleum commodity mining industry such as Chevron (USA) contribute 40% of the total lifting of 287 million barrels of oil. 15% from Pertamina EP (Indonesia), 5% from Pertamina, INPEX and Conoco Philips (USA) and 30% from from other companies through operations in Riau and East Kalimantan - Indonesia with total state revenues for the oil and gas sector amounting to 341 trillion rupiah and 37 trillion rupiah from the minerals and coal sector (eiti.ekon.go.id, 2014). For natural gas lifting Conoco Phillips (USA) contributes 21% of the total 2.3 million Indonesian national MSCF gas, 16% of the contribution comes from BP (Indonesia), 12% comes from Pertamina EP (Indonesia), 11% from INPEX, 10% from total (USA) and 30% from gas lifting contributions from other companies (eiti.ekon.go.id, 2014).

Deeper in entering into the main issues in this study, the effectiveness of environmental law originating from mining and mineral excavation activities in Indonesia each year shows that there are still many legal cases. As in 2013, legal claims in the mining sector reached 203 cases, 2014 with 173 cases and in 2018 240 cases. The legal arguments in mining activities are

Table 1: Production of main mineral and materials in Indonesia

Kind of mine mineral	Unit	2012	2013	2014	2015	2016
Crude oil	000 barel	314.666	301.192	287.902	286.706	269.613
Natural gas	mmscf	2.982.754	2.969.211	2.999.524	2.957.230	2.905.465
Tin ore	ton	44.202	59.412	51.801	52.195	42.698
Coal	000 ton	452.318	458.463	435.743	429.964	419.000
Bouxite	000 ton	31.443	57.024	2.539	472	494
Nickel ore	000 ton	48.449	65.047	39.034	1.870	1.263
Gold	kg	69.291	59.804	69.349	92.414	75.000
Copper concentrate	000 ton	2.385	1.910	1.572	2.425	2.696
Kind of materials	Unit		2014	2015	2016	2017
Sand	M3		302.439.255	373.022.443	317.043.635	327.175.708
Stone			104.276.218	54.413.501	110.133.557	115.768.198
Andesite			13.864.769	7.294.371	21.114.081	23.490.462
Sirtu gravel			37.508.536	18.728.619	50.404.140	57.484.091
Lime stone			13.317.839	23.969.459	11.594.460	12.149.160
Quartz sand			2.446.715	2.944.465	3.239.834	3.691.339
Marble			707.163	529.368	611.942	572.077
Clay			7.729.717	3.476.204	9.674.479	10.168.241
Piled soil			27.335.816	23.236.082	14.635.699	11.088.193
Other stone			27.335.816	23.236.082	14.635.699	11.088.193
Pumice stone			689.208	433.706	1.009.713	1.198.397
Feldspars			566.979	464.105	520.505	517.943
Trass			2.267.872	347.280	2.802.660	3.175.808
Kaolin			706.297	262.707	861.290	1.001.287
Zeolite			102.000	92.250	98.222	93.194

Source : Quarrying company survey (Badan Pusat Statistik, 2018)

mostly related to legislation, which are incomplete licenses, or overlapping mining permits originating from errors in issuing permits (CNN Indonesia.com, 2018). The lack of legal prosecution for mining activities in Indonesia has provided concrete evidence, as in 2016 out of 5587 mining business permits will be blocked due to expired mining permits. The number of civil law cases in mining activities is due to licensing data that is not integrated, both mining data, company data, and beneficial ownership data (www.bbc.com, 2017). Data for 2017 related to mining business permits (IUP) shows that out of a total of 8,524 IUPs of 2522 IUPs or 30% of non clear and clean (C & C) status with the dominant provinces with the most problematic IUP licenses, they are from South Kalimantan (351 IUP), Java West (291 IUP), East Kalimantan (275 IUP), South Sulawesi (188 IUP), West Kalimantan (170 IUP) which will lead to revocation of business licenses (eiti.ekon.go.id, 2018).

Weak law enforcement in mining activities in addition to having a direct impact on the environment also affects state losses through non-transparent beneficial ownership. Data from 2018 from Indonesia corruption watch (ICW) provides a statement that out of 11,000 mining businesses, there are 3772 mining businesses prone to corruption and potentially harming Indonesia reaching 28.5 trillion rupiah due to hidden ownership. The existence of closed business ownership can also have the potential as a means for money laundering, monopoly and unhealthy competition which are all impacts of governance and information sources that are closed and not upholding legal aspects. The overlapping problems in the mining industry are also marked by the lack of transparency in the administrative process, ranging from standardizing the measurement of mine impacts, up-to-date mining company contract data, weak revision of guidelines related to the extractive industries transparency initiative (EITI) and ineffectual regulations regarding mining regulations and laws. Adding a long line of administrative issues to legal cases in the mining industry which if not handled seriously by the government will have an impact on the effectiveness of state revenues and also have a direct effect on the environment due to the mining industry's disobedient procedures.

Therefore, objectively this study is expected to be able to provide alternative solutions for the government and stakeholders towards efforts to the effectiveness of ideal law enforcement that is assessed through an economic perspective, management policy, and law.

2. LITERATURE REVIEW

The terminology of enforcement of environmental laws by biezeveld said that the enforcement of environmental law is: Environmental law enforcement legal powers to ensure compliance with environmental regulations utilizing: (1) Administrative supervision of compliance with environmental regulations (inspection) (mainly preventive activity), (2) organizational measures or sanctions in case of non-compliance (corrective exercise), (3) repressive activity criminals in case of presumed offenses; (4) criminal rules or penalties in case of repressive activity, (5) civil action (lawsuit) in the case of (threatening) non-compliance (preventive or corrective activity) (Faure and Svatikova, 2012).

Furthermore, environmental law enforcement is an effort to achieve adherence to regulations and requirements in general and individual legal provisions, through supervision and implementation of administrative, criminal, and civil sanctions (Akhmaddhian, 2016). Enforcement of environmental law can be done preventively, meaning that active control is carried out on compliance with regulations without a direct incident involving actual events that lead to the presumption that legal provisions have been violated. Instruments for preventive law enforcement are counseling, monitoring, and use of the authority that is supervisory (sampling, stopping machines, and so on). Thus, the primary law enforcers are officials/government officials who are authorized to give permission and prevent environmental pollution (Lestari and Djanggih, 2019). Repressive law enforcement is carried out in the event of an act that violates the rules and aims to end the prohibited act directly. Criminal prosecution generally follows rules violations and usually cannot negate the consequences of the offense.

2.1. Sustainability Development Goals (SDGs)

SDGs is a global action plan agreed upon by world leaders to end poverty, reduce inequality, and protect the environment. SDGs contains 17 goals, namely eradication of poverty, ending hunger, improved health and well-being, quality education, gender equality, access to clean water and sanitation, clean and affordable energy. Decent work and economic growth, industrial infrastructure and innovation, reducing income inequality, cities, and sustainable communities, responsible consumption and production, handling climate change, safeguarding marine ecosystems, maintaining terrestrial ecosystems, peace and justice, and strong institutions, partnerships to achieve goals. So that to fulfill the seventeen destination objectives, there are 169 targets expected to be completed by 2030 (Organization, 2016). Where precisely the goals for the environmental handling sector are expected to upgrade infrastructure and retrofit so that the resulting waste emissions can be controlled so that they can keep the environment clean through controlling CO_2 emissions, Waste or Hazardous management, all of which can be implemented through product regulations that are conducive to the environment implemented.

2.2. Indonesian Environmental and Mining Activity Policy

Various products of environmental law in Indonesia as stated in presidential regulation No. 47 of 2005 concerning an amendment to the baseline convention on the control of transboundary hazardous wastes and their disposal. Regulation of the minister of environment No. 33 of 2009 concerning procedures for restoring land contaminated with dangerous and toxic material waste. Minister of environment regulation no. 30 of 2009 concerning the licensing and supervision of B3 waste management and monitoring of recovery due to pollution of B3 waste by the regional government. Whereas the right products relating to the regulation of mining activities include the government regulation of the Republic of Indonesia No. 22 of 2010 concerning mining areas, regulation of the Republic of Indonesia government regulation No. 78 of 2010 concerning reclamation and post-mining.

Regulations related to B3 and non-B3 waste under the Republic of Indonesia law, number 32 of 2009 which regulate environmental

protection and management and government regulation number 101 of 2014 concerning B3 waste management, adds clarity and the existence of additional rules from existing regulations namely government regulation number 18 of 1999. Besides, several provisions were established to carry out international agreements related to B3 management including law number 10/2013 concerning the Rotterdam convention, law number 19/2009 concerning the stockholm convention, and presidential regulation number 47/2005 concerning the basel convention. To improve services in the management of B3 waste and non-B3 waste. Several policies are developed regarding waste management, namely:

1. LHK ministery regulation number: P.55/Menlhk-Setjen/2015 concerning Procedures for characteristics of B3 waste test
2. LHK ministery regulation number: P.56/Menlhk-Setjen/2015 concerning procedures and
3. Technical requirements for B3 waste management from health service facilities
4. Ministery of LHK regulation number: P.63/Menlhk/Setjen/KUM.1/7/2016 concerning requirements and procedures for B3 waste stockpiling in final procurement facilities
5. Regulation of the director general of PSLB3 number: P.3/PSLB3/VPLB3/PLB.3/6/2016 concerning trial
6. Electronic technical consultation for B3 waste management licenses
7. Regulation of the director general of PSLB3 number: P.1/PSLB3/VPLB3/PLB.3/6/2016 concerning trial
8. Electronic manifest of transporting B3 waste
9. Regulation of the director general of PSLB3 Number: P.2/PSLB3/VPLB3/PLB.3/6/2016 concerning Trial of B3 Waste Transport Tracking System
10. Circular of the director general of PSLB3 number: SE.10/PSLB3/VPLB3/PLB.3/6/2016 concerning trial of electronic manifestation of B3 waste transport.

3. RESEARCH METHODS

This study approach uses the socio-legal research method on the implementation of laws regarding the effectiveness of the application of environmental law and environmental law administration in the scope of mining, mineral, and gas industry activities in Indonesia. Data collection uses some secondary data about the phenomena and violations of mining activities that are linked to the realization of the implementation of legal provisions in Indonesia.

4. RESULT AND DISCUSSION

4.1. Sources of B3 and Non-B3 in Indonesia

The waste comes from various human activities, which occur from waste material that is no longer used. Waste is generated from industrial events and domestic operations; here are some sources of waste. Table 2 explains in general about the rate of production of waste from some of the largest sources of GDP in Indonesia from 2000 to 2017.

4.1.1. Mining sector, energy and mineral

Mining activities are a significant contributor to liquid waste. The GDP generated from the mining and quarrying sector amounted to 167.7 trillion in 2000, increasing to 1,028.8 trillions in 2017 (Badan Pusat Statistik, 2018). The development of the Energy and Mineral Mining industry rises the problem of waste. The sorting process uses a lot of water media, or even what is done in the river. As seen in gold mining, it immediately dumps the waste into the river without prior processing. Likewise, in coal mines, sludge containing toxic metals is far more dangerous than the purification process of gold mining using cyanide. These carcinogenic elements, when mixed with river water and used by the community, will reduce river water quality, causing severe health problems (Badan Pusat Statistik, 2018).

4.1.2. Agroindustry sector

The agro-industry sector also produces waste disposal from agricultural processes, both in the pre-harvest, harvest, and post-harvest operations. As the largest producer of palm oil (CPO) in the world, Indonesia has the most extensive palm oil land in the world. The area of oil palm in Indonesia in 2016 reached 6.46 million hectares, of which 89% was controlled by large private plantations. While other CPO and CPO production for the year reached 22.76 million tons, this waste contains very high organic material so that the level of pollution will be higher. Mainly because almost every palm oil industry is located near the river, and its liquid waste if left to form ammonia, which will threaten the life of aquatic biota and cause foul odors.

4.1.3. Manufactur sector

The number of large and medium industrial companies in 2000 was 22 thousand companies, to 26 thousand in 2015, and 1 in 4 companies were food processing industries, then the textile and apparel industries. Plus the number of micro-small companies that are very large in Indonesia, in 2010 has reached 2.7 million business units and in 5 years to 3.6 million units in 2015. Waste produced by factories is discharged into waterways such as sewers, times or river and ends at sea. This liquid waste is dangerous, and some can be neutralized quickly. Waste that is discharged into waterways without being treated first can cause water ecosystems to be damaged, even living things inside death.

Waste is a contributor to global warming emissions that cause global climate change. Climate change triggers natural disasters,

Table 2: Sources of B3 and non-B3 in Indonesia

Sector with the largest GDP share	%	Rate of waste produced	Rate of the ability of waste that can be processed
Manufacturing	20.2	366 ton per day	3% or just 10,98 ton per day
Agriculture, forestry and fishery	13.1		
Wholesale and retail trade; repair of motor vehicles	10.4		
Mining and quarrying	7.6		

Source: (Badan Pusat Statistik, 2018)

including floods, landslides, tornadoes, droughts, etc. Emissions in the waste sector tend to increase, in 2000, there were 60.1 million tons of CO_2e released to the environment, and in 2016, it reached 97.9 million tons of CO_2e. In addition to natural disasters, waste is also related to technological disasters, especially mistakes in the management of B3 waste. Some cases of B3 pollution include instances of heavy metal pollution from electronic waste which poison children caused by lead waste in their area exceeding the WHO threshold (Badan Pusat Statistik, 2018). B3 wastes, especially heavy metals such as mercury, lead or dioxin substances, are toxic, carcinogenic (cause cancer), and mutagenic. Its external impact is the degradation of the environment and the health of the people living around it. Land, water, and the air around the waste processing site are generally contaminated with heavy metals and toxic compounds. Data shows that nearly 68% of river water quality in Indonesia is heavily polluted (Badan Pusat Statistik, 2018).

4.2. Management and Utilization of B3 Waste in the Mining, Energy and Mineral Sector

The B3 waste data managed in 2015 amounted to 125.54 million tons from 269 companies (Table 3). For 2016, there were 78.36 million tons from 295 companies. While the amount of B3 waste managed in 2017 was 60.31 million tons from 262 companies. The type of company that leads waste the most every year is engaged in the mining, energy and mineral subsector. The activity because the energy and mineral mining sector has a large work area and production capacity. But when compared to the target until 2019, the waste management position until 2017 has not yet reached the goal. The cause of the target was not achieved because of the presence of B3 waste managed without permits, handed over to unauthorized third parties or open dumping (Badan Pusat Statistik, 2018).

4.3. Waste Management Efforts in Indonesia

First effort, waste management in Indonesia refers to Indonesian government regulation number 101 of 2014 stating that B3 waste management activities are a series of events which include reduction, storage, collection, transportation, utilization, the management or stockpiling. To ensure that each chain of B3 waste management is by the legal provisions. B3 waste managers must be equipped with a permit. One of the efforts to manage waste including the mining, energy and mineral industries in Indonesia is through the issuance of permits, as in 2015 the number of licenses issued to waste managers was 582 applicant issues and as many as 200 licenses had not been published or the comparison between the number of permits issued reached the target 74.4%. In 2016 the number of permits issued compared to 2015 increased to 639 licenses that had been issued, and 92 permits had not yet been issued or reached 87.4%. Whereas in 2017 it decreased from the previous year, namely 2016 to 439 issued licenses and 97 unpublished permits or an achieved target of 83.6%.

Table 3: Management and utilization of B3 waste in the mining, energy and mineral sector (million ton)

Sector	2015	2016	2017
Mining, energy and mineral	89,3	70,1	55,1
Infrastructure and services	33,2	1,1	3,6
Manufacture	2,2	5,5	1,2
Agroindustry	1,8	1,7	0.4

Source: Indonesian Central Bureau of Statistics, 2018 (Badan Pusat Statistik, 2018)

The second attempt is related to waste management in Indonesia, namely the recovery of B3 waste contaminated land. This is following Indonesian minister of environment regulation no. 18 of 2015. As in 2015, the restoration of contaminated soil was 389,354.07 tons with an area of 63,423.11 m^2. In 2016 the land that was successfully restored decreased compared to 2015, which amounted to 213,433.17 tons with an area of 83,287.67 m^2 and increased to 767,107.12 tons with a land area of 318,713.76 m^2.

5. DISCUSSION

Enforcement of environmental law in Indonesia includes structuring and enforcement (compliance and implementation). When talking about administrative law enforcement, of course, it will discuss the facilities that can be used in law enforcement administration. The scope of regulatory law enforcement to make enforcement of environmental law can be useful can be achieved through two aspects, namely defensive efforts which include supervision to prevent violations that have the purpose of compliance with regulations. Second, repressive efforts through the application of sanctions to stop breaches and return to the situation before the abuse of legal norms.

To avoid repeated criminal prosecution, individuals who commit environmental pollution must stop the situation. Regarding the enforcement of local environmental law by the Government, it should be able to take environmental dispute settlement efforts by way of an environmental lawsuit to obtain compensation for victims of pollution due to illegal acts by polluters. Considering that ecological pollution activities harm many parties and ecosystems, the government can take the path by using (private prosecution) the perpetrators of environmental pollution, in this case, are companies that are active in the mining, energy and mineral industries through civil lines.

Administrative environmental law is the most substantial part, and environmental law consists of regulatory and legal provisions. These provisions, on the one hand, are the norms that bind citizens. On the other hand, the regulation also regulates the limits of authority and government organizations in terms of implementing material norms. If a provision of environmental law pertains to how licensing is granted, then this provision contains a material norm; an action is an act that is prohibited insofar as permission has not been obtained. Also, the same regulations, namely recognizing or giving authority to the government to give permits related to mining industry activities. Administrative sanctions are given if mining operators violate the rules after their business permit is issued. In other words, environmental law needs an integrated licensing system, meaning to prevent and eradicate or overcome ecological pollution problems. So that in taking a more comprehensive legal procedure, the government must reinforce environmental licensing procedures. The concrete steps that must be accompanied by the government as the licensor require the participation of the community and the study of science or technology. In the clause of the study of legal regulations that

involve many stakeholders (community, academics, government), it is necessary to consider several key points, namely: (1) How is the implementation of industrial activities so that the activation process does not cause pollution; (2). If there is contamination how to overcome it; (3). Supporting tools or instruments/facilities and infrastructure that need to be prepared to prevent pollution; (4). If the contamination is not overcome, how is the solution for the recovery of the environment; (5). How environmental restoration and monitoring is carried out; in what form pollution losses are carried out. Therefore, after the instrument has been arranged in the way of standard regulations and violations of permits continue to occur, the company can be given a cumulative sanction in the form of revocation of licenses, civil penalties, and criminal sanctions. If the environmental management law (UUPLH) is reviewed, it is evident that the punishments for enforcing administrative environment law are still limited to pouring, which is limited to coercive government (article 25 paragraph 1) in the form of "payments of certain money" (article 25 paragraph 5) and revocation of licenses (article 27).

Apart from that, regarding the enforcement of environmental law after administrative law can also lead to criminal law. The effectiveness of the application of sanctions and elements of criminal imposition for perpetrators of environmental pollution, the implementation and enforcement of criminal law for environmental law actors must pay attention to the severity of environmental pollution. Besides that, practical considerations sometimes must also be considered. Environmental codes related to evidence and determination of the causal relationship between polluting and polluted actions and procedures for prosecuting them are regulated by criminal law. The role of the investigator is very functional because it involves evidence or an instrument which is sometimes scientific (chemical). Besides that the proof of the causal relationship element is an obstacle for investigators, environmental pollution often occurs cumulatively, so it is difficult to prove the source of contamination is polluted because it is chemical. In theory ecological law, criminal and civil sanctions can be applied to environmental polluters by looking comprehensively, meaning that polluters can be given administrative sanctions. In the form of revocation of licenses as well as criminal penalties, even the principle primitive premium can be applied in environmental offenses, meaning people who violate permits, not the business license was revoked at the same time in criminal. The application of this sanction is emphasized considering that pollution is difficult to overcome or restore as before. Another road taken by the government to avoid environmental problems caused by increasingly uncontrolled mining activities is by utilizing private law. Civil sanctions in the form of compensation to the aggrieved party (community) through the application and effectiveness of the CSR (Corporate Social Responsibility) function.

6. CONCLUSION

The effectiveness of environmental law enforcement on the activities of the mining, gas, and mineral industry can run smoothly and smoothly concerning several fundamental aspects. On the other hand, mining activity is an effort to create jobs, improve the economy, which aims at equitable distribution of income through the absorption of labor in the sector of the mining industry. However, mining activities have two opposing sides, namely the principle of productivity as a positive side and the impact of pollution as a negative side. Therefore law enforcement is also endeavored to be fair to both companies/entrepreneurs in the mining, gas and mineral industry and even the community.

Environmental issues that are becoming a global issue require the government to take firm action against violators/perpetrators of environmental pollution to cause deterrent effects for others. The government can take legal steps through administrative, criminal, and civil considerations as a manifestation of creating environmentally friendly and sustainable production activities in the future.

REFERENCES

Akhmaddhian, S. (2016), Penegakan hukum lingkungan dan pengaruhnya terhadap pertumbuhan ekonomi di Indonesia (Studi Kebakaran Hutan Tahun 2015). UNIFIKASI: Jurnal Ilmu Hukum, 3(1), 1-10.

Badan Pusat Statistik. (2018), Statistik Lingkungan Hidup Indonesia. Badang Pusat Statistik Indonesia. Avaialble from: https://www.bps.go.id/publication/2018/12/07/d8cbb5465bd1d3138c21fc80/statistik-lingkungan-hidup-indonesia-2018.html.

CNN Indonesia.com. (2018), Polri Catat 240 Kasus Hukum di Sektor Pertambangan. Retrieved May 5, 2019, from https://www.cnnindonesia.com/ekonomi/20180222172759-85-Available from: http://www.278120/polri-catat-240-kasus-hukum-di-sektor-pertambangan.

eiti.ekon.go.id. (2014), Pemain Utama Industri Tambang Indonesia. EITI Indonesia. Available from: http://www.eiti.ekon.go.id/pemain-utama-industri-tambang-indonesia. [Last accessed on 2019 May 05].

eiti.ekon.go.id. (2018), Ijin Tambang Status Non C and amp;C EITI Indonesia. Avaialble from: http://www.eiti.ekon.go.id/ijin-tambang-status-non-cc. [Last accessed on 2019 May 05].

Faure, M.G., Svatikova, K. (2012), Criminal or administrative law to protect the environment? Evidence from Western Europe. Journal of Environmental Law, 24(2), 253-286.

Hatta, M. (1977), Pelaksanaan undang-undang dasar 1945 pasal 33. Penjabaran Pasal, 33, 26-33.

Lestari, S., Djanggih, H. (2019), Urgensi hukum perizinan dan penegakannya sebagai sarana pencegahan pencemaran lingkungan hidup. Masalah-Masalah Hukum, 48(2), 147-163.

Mina, R. (2016), Desentralisasi perlindungan dan pengelolaan lingkungan hidup sebagai alternatif menyelesaikan permasalahan lingkungan hidup. Arena Hukum, 9(2), 149-165.

Murdifin, I., Faisal Pelu, M.A., Putra, A.H.P., Arumbarkah, A.M., Rahmah, A., Muslim Indonesia, U., Rahmah, A. (2019), Environmental disclosure as corporate social responsibility: Evidence from the biggest nickel mining in Indonesia. International Journal of Energy Economics and Policy, 9(1), 115-122.

Peraturan Dirjen PSLB3 Nomor P.1/PSLB3/VPLB3/PLB.3/6. (2016), Tentang Uji Coba Manifes Elektronik Pengangkutan Limbah B3.

Peraturan Dirjen PSLB3 Nomor P.2/PSLB3/VPLB3/PLB.3/6. (2016), Tentang Uji Coba Sistem Pelacakan Pengangkutan Limbah B3.

Peraturan Dirjen PSLB3 Nomor P.3/PSLB3/VPLB3/PLB.3/6. (2016), Tentang Uji Coba Konsultasi Teknis Secara Elektronik Perizinan Pengelolaan Limbah B3.

Peraturan Menteri LHK Nomor P.55/Menlhk-Setjen. (2015) Tentang Tatacara Uji Karakteristik Limbah B3.

Peraturan Menteri LHK Nomor P.56/Menlhk-Setjen. (2015) Tentang Tatacara dan Persyaratan Teknis Pengelolaan Limbah B3 dari Fasilitas Pelayanan Kesehatan.

Peraturan Menteri LHK Nomor P.63/Menlhk/Setjen/KUM.1/7. (2016), Tentang Persyaratan Dan Tata Cara Penimbunan Limbah B3 Di Fasilitas Penimbusan Akhir.

Peraturan Menteri Lingkungan Hidup No. 30 Tahun. (2009), tentang Tata Laksana Perizinan dan Pengawasan Pengelolaan Limbah B3 Serta Pengawasan Pemulihan Akibat Pencemaran Limbah B3 Oleh Pemerintah Daerah.

Peraturan Menteri Negara Lingkungan Hidup No. 33 Tahun. (2009), Tentang Tata Cara Pemulihan Lahan Terkontaminasi Limbah Bahan Berbahaya dan Beracun.

Peraturan Pemerintah Nomor 101 Tahun. (2014) Tentang Pengelolaan Limbah B3.

Peraturan Presiden No. 47 Tahun. (2005), Tentang Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Surat Edaran Dirjen PSLB3 Nomor SE.10/PSLB3/VPLB3/PLB.3/6. (2016) Tentang Pelaksanaan Uji Coba Manifes Elektronik Pengangkutan Limbah B3.

Undang-Undang Republik Indonesia Nomor 19 Tahun. (2009), Tentang Pengesahan Stockholm Convention On Persistent Organic Pollutants Konvensi Stockholm Tentang Bahan Pencemar Organik Yang Persisten.

Undang-Undang] Republik Indonesia Nomor 32 Tahun. (2009) Tentang Perlindungan dan Pengelolaan Lingkungan Hidup.

World Health Organization. (2016), World Health Statistics 2016: Monitoring Health for the SDGs Sustainable Development Goals. Geneva: World Health Organization.

www.bbc.com. (2017), Merugikan Negara Ribuan Izin Tambang di Indonesia Akan Diblokir BBC News Indonesia. Avaialble from: https://www.bbc.com/indonesia/indonesia-42308353. [Last accessed on 2019 May 05].