# Regulating B3 Air Pollutant for Better Air Quality in Indonesia

*by* Wahyu Widodo

International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 14, Issue 2, 2020

# Regulating B3 Air Pollutant for Better Air Quality in Indonesia

**Wahyu Widodo[a], Toebagus Galang[b],** [a]Faculty of Law of Universitas PGRI Semarang Indonesia, [b]Faculty of Law of Universitas PGRI Semarang Indonesia, Email: [a]wahyudiary299, [b]galangsnowfield@yahoo.co.id

The purpose of this study is to investigate ways to solve the issue of air pollution in Indonesia. Air pollution has become so serious that scientists attribute a large number of deaths to its ever increasing effects. Research shows that rules concerning air pollution have existed even though they have certain flaws such as the air quality index as seen in Decree of the Minister of Environment Number KEP-45 / MENLH / 10/1997 concerning the Air Pollution Standard Index (ISPU). The document is flawed because it only sets the standard for calculating ISPU in Indonesia using 10 micron (PM 10) dust particle parameters, which is higher than the standard recommended by the WHO of 2.5. The suggestion that may be given aside from the positive law is that laws, that are usually seen as a set of rules are often affected by the element of Legal Culture, as it is where the law comes from. Therefore to effectively manage laws regarding B3 Air Pollutant it is strongly urged to socialise and promote for better air quality. This is so that citizens and also the executive industrial may benefit, in addition to managing a clean environment and enforcing the rules that have already been set.

**Key words:** *Regulation, B3 Air Pollutant, Air Quality, Indonesia.*

## Introduction

Increased development activities in Indonesia can encourage increased use of hazardous and toxic materials (B3) in various sectors such as industry, mining, agriculture and health. B3 can be from domestic industries or imported from overseas. B3 is produced from within Indonesia and it is also exported to certain countries.

The process of import and export is increasingly easy to do because of globalisation. Over the past four decades, the use and number of B3 in Indonesia has increased. The use of B3 continues to increase and is in widespread use in all sectors. If the management of B3 is not

carried out properly, it causes loss of human health, and effects other living things and the environment, through air pollution, soil pollution, water pollution, and sea pollution (Arief, 2017).

It is important to study Air pollution because the issue has become so serious that scientists attribute a large number of human deaths to its ever increasing effects. In fact, polluted air kills more people each year than malaria or tuberculosis (Berkeleyeart, 2015). Some cities are even shut down during certain times of the year because the air is so toxic that it is impossible to function.

Furthermore, high levels of air pollution on some days in China has the same effect on human health as smoking 60 cigarettes per day. The same can be seen in New Delhi in India, infamous for its pollution exceeding safe air quality levels by 20 times on days when thick smog wraps around the city. According to a study by the *Chittaranjan* National Cancer Institute, almost half of Delhi's children develop irreversible lung damage during their childhood years (Matthew, 2018).

The same can be observed in one city in Indonesia namely Jakarta. As the capital of Indonesia where most of the money flow comes from this city, Jakarta has been categorised as an unhealthy city in terms of air quality. This result comes from many factors, but the most worrying is the rise of industrial needs for energy which results in more air pollutant (Neil, 2013).

In order to mitigate the effects of B3 on the environment and to achieve a high degree of security, based on the principles of sustainable development and improve the quality of human life, it is necessary to increase efforts for better and integrated management of air pollution.

Based on the problem mentioned above the main issues discussed in this article are:

1. What is the current problem in regulating the management of air pollutant in Indonesia ?
2. How to solve the current problem in regulating the management of air pollutant in Indonesia?

**Methods**

The approach used in this research is the method of juridical sociological or socio-legal research. According to Irianto (Sulistyowati, 2012), socio-legal research simply puts the law as a social phenomenon. Therefore, in this study, the problems of law are placed or associated with social problems. According to the sociological juridical approach, the source of the data in this study is only a secondary data, form primary legal materials, secondary and tertiary. To obtain the materials necessary research was done by searching, collecting and studying the literature, legislation, research, scientific works and written documents. This was other than

legal materials that have been collected in accordance with problems studied and analysed in a qualitative study, which leads to the conclusion that is used to address the problems discussed.

**Results and Discussion**

Air waste can cause air pollution. Air pollution occurs when harmful or excessive quantities of substances including gases, particles, and biological molecules are introduced into Earth's atmosphere. It may cause diseases, allergies and even death to humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment. Both human activity and natural processes can generate air pollution (Kanellakis et al. 2013).

Some pollutants return to the earth through acid deposition or snow which results in corrosive properties to buildings, plants, forests, while also making rivers and lakes a dangerous environment for fish due to their low *pH* value.

At present, the Indonesian government's policy settings in creating an environmental balance have been actualised by the first promulgation of regulations governing the environment. This is specifically Law No. 4 of 1982 concerning Basic Provisions for Environmental Management, which was later replaced by Law No. 23 of 1997 concerning Environmental Management, which was subsequently replaced by Law No. 32 of 2009 concerning Environmental Protection and Management. Thus this law functions as a framework provision (Framework Law) to protect the environment and does not explicitly regulate the prevention of air pollution.

Based on this law, in order to counter act air pollution, the government has applied various programs for prevention, and the prevention of air pollution has been carried out by the government through the Blue Sky Program. The Blue Sky program which began in 1996 was carried out by the Ministry of Environment with the issuance of the Decree of the Minister of Environment No. 15 of 1996.

Some air pollution prevention and prevention programs include:

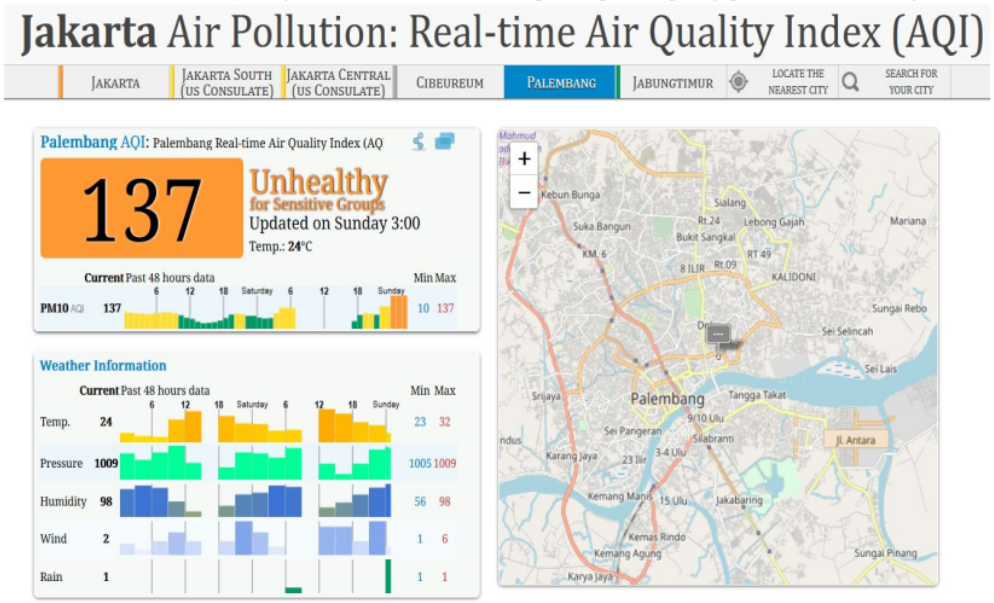
a. Development of regulatory instruments.
b. Use of clean fuel.
c. Use of alternative fuels.
d. Transportation management development.
e. Monitoring of motor vehicle exhaust emissions.
f. Empowerment of the role of the community through mass communication.

The Air Pollution Control Policy in Indonesia is regulated by:

a. Law No. 32 of 2009 concerning Environmental Protection and Management
b. Government Regulation No.41 of 1999 concerning Air Pollution Control.
c. Law No. 32 of 2009 concerning Protection and Management of Environmental Quality Standards
d. Government Regulation No. 41 of 1999 concerning Air Pollution Control

Despite existing rules and enforcement air pollution in Indonesia and especially in Jakarta continues to increase. By 10 July 2019 the current Air Quality Index was categorised as unhealthy as evidenced in the report of the Indonesian Department of Meteorology, Climatology and Geophysics below:

**Picture.** Jakarta Air Quality Index, Taken From https://aqicn.org/city/jakarta/ on 10 July 2019.




Among the many factors that cause air pollution, by far the biggest contributor is industrial waste casued by steam powered electric power plants. They contribute to at least 30 Percent of Jakarta's air pollution (CNN Indonesia, 2019). To eliminate or reduce the risks that can be generated from air pollution produced, air waste must be managed specifically. Air waste from industry that affects air quality is regulated by a specific law known as the B3 (Hazardous Wastes And Toxic) Management (Tara, 2010).

The regulation of B3 Waste or Management of Hazardous Wastes and Toxic, is contained in the Government Regulation of The Republic of Indonesia Number 101 of 2014. There are;

About Management Of Hazardous Wastes And Toxic and, the Decree Of The Minister Of Health Of The Republic Of Indonesia Number 1407 / Menkes / Sk / Xi / 2002, About Impact Control Of Air Pollution Guidelines. These are the frontline regulations for fighting air pollution caused by industrial waste in Indonesia.

B3 produced and / or used in various sectors of activities must be managed according to the rules and principles of B3 waste management. These are namely minimising B3 waste, managing as close as possible to the source of B3 waste, everyone producing B3 waste is responsible for B3 waste, and management of B3 waste is carried out from source to stockpiling (from upstream to downstream). B3 waste which is disposed directly into the environment can cause harm to the environment and the health of humans and other living creatures. In view of these risks, it is necessary to strive for every activity to minimise production of B3 waste and prevent the entry of B3 waste from outside Indonesia.

The role of the Indonesian Government in overseeing the cross-border movement of B3 waste has been carried out through the ratification of the Basel Convention on 12 July 1993, with Presidential Decree Number 61 of 1993.The hierarchy of B3 waste management is intended so that B3 waste produced by each production unit is as little as possible and even cultivated to zero, by attempting to reduce resources by processing materials, substituting materials, regulating operations, and using clean technology. When B3 waste is still produced, the utilisation of B3 waste is sought. The use of B3 waste which includes reuse, recycling and recovery is an important link in the management of B3 waste.

The reuse of B3 waste for the same purpose is done without going through additional processes in chemistry, physics, biology and / or thermally. Recycling occurs through useful components through chemical, physical, biological, and / or thermal additional processes to produce the same product or different products, and recovery is the recovery of beneficial components with chemical, physical, biological and / or thermal processes (Anastasia et al., 2016).

With the technology of utilising B3 waste, the amount of B3 waste can be reduced so that the cost of processing B3 waste can also be reduced and it will be able to increase the utilisation of raw materials. This in turn will reduce the speed of depletion of natural resources (Richard, 2014).

The existing B3 management policies are still partially carried out by various related agencies, so that there are still many obstacles in its implementation. In addition, management of B3, B3 waste and dumping has not been carried out in the form of an integrated arrangement while B3 or B3 waste can cause harm to human health, other living creatures and the environment if it is not properly managed. Therefore, it is increasingly recognised the need for Government Regulations concerning B3 and B3 waste management which regulates production, storage,

packaging, symbol and labeling, transportation, use, import, export and disposal for B3 as well as storage, collection, transportation, processing, utilisation and stockpiling for B3 waste. The importance of drafting this Government Regulation is explicitly mentioned in Indonesia's Agenda 21, National Strategy for Sustainable Development and as the implementation of Article 58 paragraph (2) and Article 59 paragraph (7) of Law Number 32 Year 2009 concerning Environmental Protection and Management.

One of the factors causing air pollution in Jakarta are steam powered electric power plants (PLTU). These power plants are; Banten Energy Sustainable PLTU with a capacity of 670 MW, *Suralaya* PLTU unit 1-7 with a capacity of 3400 MW, *Suralaya* PLTU unit 8 with a capacity of 625 MW, PLTU *Labuan* unit 1-2 with a capacity of 600 MW, and *Merak* Power Station unit 1-2 with a capacity of 120 MW. Then *Lontar* unit 1-3 PLTU has a capacity of 945 MW, *Lontar* Exp PLTU with a capacity of 315 MW, *Babelan* PLTU unit 1-2 with a capacity of 280 MW, *Pindo Deli* PLTU and Paper Mill II with a capacity of 50 MW, and *Ratu* Port unit 1-3 with a capacity of 1050 MW.

The number of power plants may increase again in the future as there still a number of new power plants to be built. At least four coal-fired power plants are under construction to date, namely *Asahimas* Chemical PLTU unit 1-2 with a capacity of 300 MW, Java-7 PLTU with a capacity of 2,000 MW, Java-9 PLTU or Banten Exp. with a capacity of 1,000 MW, as well as the Java-6 PLTU or *Muara Gembong* with a capacity of 2,000 MW. In addition there is a coal Industry that also contributes to the air waste pollution.

The rise of industry is good as it increase the nation's wealth. However good it may be, it also gives rise to industrial waste that is harmful to the community, and, on a larger scale the ecosystem (Magda et al., 2016).

Even though there are many ways to counteract this, the high Air Pollution Index proves that the way to handle the case is still lacking.

According to the Decree Of The Minister Of Health Of The Republic Of Indonesia Number 1407 / Menkes / Sk / Xi / 2002 About Impact Control Of Air Pollution Guidelines, air pollution effect controls are: promotive, preventive, investigation, monitoring, treatment, and recovery efforts on public health caused by the effects of air pollution.

The enforcement of those law are basically, the authority of the center is responsible in determining policies that are norms, standards, criteria and procedures and are very limited to the authority of implementation. In Government Regulation number 25 Article 2 paragraph (2), the Central Government has the authority to regulate the control of the effects of air pollution, especially in determining guidelines, accreditation, and epidemiological surveillance. Air

pollution that occurs across provinces and internationally is the responsibility of central government, including cross-regency / city. Air pollution that cannot be handled by the local and provincial governments as Indonesia adheres to the regional autonomy system, the regions are given autonomy to rule their district (Law No. 23 Year 2004 On Regional Autonomy Government). Furthermore according to the Decree of the Minister of Health of the Republic of Indonesia No. 1277 / Menkes / SK / XI / 2001 concerning the Organisation and Work Procedure of the Indonesian Ministry of Health in carrying out the control of the effects of air pollution have the function of preparing technical policy materials, preparation of technical standards, norms, guidelines, criteria and procedures as well as preparing evaluations in the field the impact of air pollution (Ucok et al., 2017).

However, problems also occur in the regulation for measuring the air quality index as Decree of the Minister of Environment Number KEP-45 / MENLH / 10/1997 concerning the Air Pollution Standard Index (ISPU). This occurs when the document only sets the standard for calculating ISPU in Indonesia using 10 micron (PM 10) dust particle parameters. Meanwhile, Air Visual data uses the PM 2.5 parameter, dust particles measuring less than 2.5 microns. If using government parameters so far, namely PM 10, WHO stipulates that air quality is "good" if the maximum number of PM 10 is 20 ug / m3 (micrograms per cubic meter). Meanwhile, the Ministry of LHK version, "good" air quality is tolerated up to 51 ug / m3. Even though the government used PM 2.5 as a parameter, the standard was not strong enough. Quoted from the Executive Commission on Delegate Gasoline Commission (KPBB) data, PM 2.5 concentration of 65 ug / m3 is categorised as "very unhealthy" by the WHO (Jamieson, 2009), while the government categorises it as "moderate" (CNN Indonesia, 2019).

After presenting the research results on the law that governs B3 air pollutant for a better air quality, the author then presents the analysis on why the rule isn't effective based on the view of law. This research uses the Lawrence Friedman Theory of Elements of Law that consists of Substance, Structure and Culture to show this.

Substance - is the element of law that consists of written law, an element of law that is considered as a positive law. Structure - is the element of law that functions as the elements that enforce the substance, police, judges and lawyers for example. Both the substance and structure as seen in the explanation above are used despite their lack, as in the substance such as the Decree of the Minister of Environment Number KEP-45 / MENLH / 10/1997. This decree concerns the Air Pollution Standard Index (ISPU) that sets the standard of ISPU in Indonesia using 10 micron (PM 10) dust particle, which is lower than the standard set by the WHO, and not to mention the structure such as the police that had relatively low public trust (CNN Indonesia, 2019). However, despite its weaknesses, both the structure and substance has performed well, however one thing that must be considered is the third element that is the Legal Culture.

Lawrence M. Friedman discusses what Legal Culture is. He states that Legal Culture is..."*social thought and social force which determines how law is used, avoided, or abused*" (Lawrence, 1994). Lawrence (1994) argued that the law, which is usually seen as a set of rules are often affected by the element of Legal Culture (Wahyu et al., 2018) as it is where the law comes from. This conclusion is further supported by Sahrir (Syazwani et al., 2020) that perceived vulnerability (H1) and self-efficacy (H3) as closely tied to urban air quality. Therefore to effectively manage B3 Air Pollutant law it is strongly urged to socialise and promote the needs for better air for living, for not only citizen but also the executive industrial. This is in addition to managing a clean environment and enforcing the rules that has been already set in May 2020 when the Covid-19 Pandemic occurred in Indonesia. These rules were set to manage reduction in air pollution levels in Jakarta as there are now various implementations to hinder people's movement. (Dio, 2020) However, despite the extraordinary pandemic event, if the Legal Culture in the community isn't changed after the restrictions are removed the air pollution situation will still remain the same.

**Conclusion**

The regulation of B3 Waste or Management Of Hazardous Wastes And Toxic, are contained in Government Regulation Of The Republic Of Indonesia Number 101 Of 2014 About Management Of Hazardous Air Pollution Control Policy in Indonesia, Law No. 32 of 2009 concerning Environmental Protection and Management, Government Regulation No.41 of 1999 concerning Air Pollution Control, Law No. 32 of 2009 concerning Protection and Management of Environmental Quality Standards, Government Regulation No. 41 of 1999 concerning Air Pollution Control are, Decree Of The Minister Of Health Of The Republic Of Indonesia Number 1407 / Menkes / Sk / Xi / 2002 About Impact Control Of Air Pollution Guidelines the frontlines of fighting the air pollution caused by industrial waste. However some rules have certain flaws such as the air quality index as seen in Decree of the Minister of Environment Number KEP-45 / MENLH / 10/1997 concerning the Air Pollution Standard Index (ISPU) where the document only sets the standard for calculating ISPU in Indonesia using 10 micron (PM 10) dust particle parameters which is higher than the standard provided by the WHO of 2.5.

It is recommended that aside from positive law, is that law that is usually seen as a set of rules are often affected by the elements of Legal Culture as this is where the law comes from. Therefore to effectively manage law for the management of B3 Air Pollutant it is strongly urged to socialise and promote the needs for better air quality for living to not only citizens, but also the executive industrial in addition to managing a clean environment and enforcing the rules that has been already set.

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