



Law Enforcement Against Environmental Pollution by Vehicle Exhaust Emissions

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Abstract

Enforcement of environmental laws relating to emissions from motor vehicle exhaust It is clear from the laws and regulations that the Ministry of Transportation is authorized to act as the implementing agency for periodic motor vehicle inspections and emission testing. The use of motorized vehicles contributes to air pollution which hinders the management and protection of the environment. There are many types of environmental pollution, but in particular air pollution has far-reaching detrimental effects and has a significant impact on environmental quality. By using normative legal research methods and literature studies, namely research that looks at document studies, there are several regulatory matters, including Article 206 of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Presidential Regulation (Perpres) No. 55 of 2019 concerning the Acceleration of the Battery Electric Vehicle Program for Road Transportation. One of the causes of environmental pollution, especially in the air, is the use of vehicles that use oil (fuel). Electric vehicles are currently the solution to developing environmentally friendly technologies. The government's efforts are carried out by completing emission tests and developing electric vehicles that affect both the environment and vehicle health.

Keywords: Law Enforcement, Environment, Emissions, Electric Vehicles

Abstrak

Penegakan hukum lingkungan yang berkaitan dengan emisi dari knalpot kendaraan bermotor Jelas dari peraturan perundang-undangan bahwa Departemen Perhubungan berwenang untuk bertindak sebagai lembaga pelaksana inspeksi kendaraan bermotor dan pengujian emisi secara berkala. Penggunaan kendaraan bermotor berkontribusi terhadap pencemaran udara yang menghambat pengelolaan dan perlindungan lingkungan hidup. Ada banyak jenis pencemaran lingkungan, tetapi khususnya polusi udara memiliki efek merugikan yang luas dan memiliki dampak yang signifikan terhadap kualitas lingkungan. Dengan menggunakan metode penelitian hukum normatif dan studi kepustakaan, yaitu penelitian yang melihat pada kajian dokumen, terdapat beberapa hal pengaturan, antara lain Pasal 206 Peraturan Pemerintah Nomor 22 Tahun 2021 tentang Penyelenggaraan Perlindungan Lingkungan Hidup dan Peraturan Presiden (Perpres) No. 55 Tahun 2019 tentang Percepatan Program Kendaraan Bermotor Listrik Berbasis Baterai (Battery Electric Vehicle) untuk Transportasi Jalan. Penyebab pencemaran lingkungan khususnya di udara salah satunya merupakan penggunaan kendaraan yang menggunakan minyak (bahan bakar). Kendaraan listrik saat ini menjadi solusi untuk mengembangkan teknologi ramah lingkungan. Upaya pemerintah dilakukan dengan menyelesaikan uji emisi dan pengembangan kendaraan listrik yang berpengaruh baik terhadap lingkungan maupun kesehatan kendaraan.

Kata kunci : Penegakan Hukum, Lingkungan Hidup, Emisi, Kendaraan Listrik

I. Introduction

Ecology discusses how humans become part of their environment as a whole. The fact that

humans and the environment are closely related and share the same position is an example of an integrated whole. The responsibility to balance the relationship between humans and the environment is also represented in a number of societal principles. Utilization of the environment includes paying attention to the efforts made to manage and maintain it, which basically means that it must be kept in the same condition as before. Development needs, which are closely related to how the environment is used, present a challenge to sustain this state. This shows that environmental changes will occur along with the implementation of development. The environment must be maintained during the transformation process so that it can support normal life, in accordance with the carrying capacity and capability of the environment, without causing harm.¹

Deteriorating air quality creates an increasing hazard to the health of living things, due to the massive expansion of motorized vehicles in urban areas and their high emission levels. In the automotive sector, monitoring air quality is very important for several reasons, most importantly because motor vehicle exhaust emissions are the main source (approximately 70%) air pollution in Indonesia.² As for the technique of monitoring air pollution itself, it can be done through a gas sensor located in the air duct found in motorized vehicles called exhaust, or it can also be done by monitoring the outside air quality directly.³ In order to create a harmonious environment for human life, the government has made laws to limit this environmental pollution, namely Law Number 22 of 2009 concerning Road Traffic and Transportation, Law Number 32 of 2004 concerning Regional Government, and Law Number 32 of 2004 concerning Regional Government. -Law Number 32 of 2009 concerning Environmental Control and Management.⁴ Public health can be affected, among other things, by vehicle emissions which are harmful to the environment and air, for those who live in urban areas, industrial areas, or areas with lots of motorized vehicle activity. Depending on the nature, size and chemical composition of the pollutant, it can cause various degrees and types of health problems for humans. Examples of these pollutants are CO, NO_x, SO₂, dust, and lead. Increase as quickly as possible the number of road-based public transportation.⁵ To combat air pollution, comprehensive efforts are needed including improvements section and learning from other big cities that have succeeded in reducing pollution air as well as overcoming congestion that often occurs, transportation of people must be combined with law enforcement efforts on the road using a tool to measure more quickly, namely the Emission Tester..⁶

The negative impact of air pollution from vehicles automatically endangers the quality of the environment that sustains human life. vehicles are required by law to test the emissions that occur in the exhaust gases released by the vehicles they operate. The exhaust emissions of vehicles themselves have a definition, namely the result of the remaining fuel burning in the vehicle engine that is expelled through the engine exhaust system, while the process p.s Combustion is a chemical reaction that occurs between oxygen in the air and compounds that contain carbon in the fuel, which can generate power.⁷ The emission test must be carried out at least once a year.

¹ Purnamasari, I. M, "Penegakan Hukum Dalam Tindak Pidana Pencemaran Lingkungan (Studi Kasus Putusan Nomor 55/Pid. B/LH/2016/PN. Pwk)", JISIP (Jurnal Ilmu Sosial dan Pendidikan), 5(1), (2021)

² Widodo, Slamet. Jurnal Techno-Socio Ekonomika, Volume 13 No. 1 Hal. 70, (2020)

³ Widodo, Slamet. Jurnal Techno-Socio Ekonomika, Volume 13 No. 1 Hal. 71, (2020)

⁴ A. Hamzah, *Penegakan Hukum Lingkungan*, (Jakarta: Arikha Media Cipta), 1995

⁵ Sitorus, Panal, "Pengembangan Kebijakan Menekan Emisi Kendaraan Bermotor Di Indonesia", *The Power of Transport Development*, Vol. 22 (1), (2010)

⁶ Murdoma, J.S, dkk, "Kajian Hukum Terhadap Polusi Udara dari Emisi Gas Buang Emisi Angkutan Trans Yogyakarta", Seminar Nasional Diseminasi, (2021)

⁷ Joko Winarno. *Studi Emisi Gas Buang Kendaraan Bermesin Bensin Pada Berbagai Merk Kendaraan Dan Tahun Pembuatan*. (2017)

Emission testing is carried out by an emission test professional at the emission test location. Some registered workplaces may carry out emission testing of vehicles which may serve as emission test locations. Those selected to test the exhaust emissions emitted by vehicles are known as emission test technicians. Emission tests are carried out with the aim of reducing the impact of pollution that occurs in exhaust gases released and discharged into the air by vehicle exhaust gases. Although they offer many benefits and serve many needs in modern society, motorized vehicles also have a harmful impact on the environment.

II. Research Problems

Based on the introduction above, we can find out the problems related to environmental pollution from exhaust emissions that will be discussed, namely:

1. How is law enforcement in Indonesia regarding environmental pollution by exhaust emissions produced by vehicles?
2. What are the efforts of the Government of Indonesia to tackle environmental pollution by exhaust gases produced by vehicles?

III. Research Methods

Research is the process of conducting a study which involves selecting a topic, formulating a problem, and then efficiently and methodically collecting, processing, presenting, and analyzing data using the scientific method to study the problems that may exist in a research, advancing science or to decide how to solve a current problem.⁸ Normative legal research is used in this study. Discovering legal rules, legal doctrines, and legal principles to resolve challenges facing law is a process known as normative legal research.⁹ The statutory approach and the historical approach are the methodologies used in this article. In addition, secondary data from library research that begins with the science of law or law is used in this study.

IV. Result And Discussion

1. Law Enforcement in Indonesia in Environmental Pollution by Exhaust Emissions Produced by Vehicles

Law enforcement is a way of enforcing or using the rules of law that apply and are regulated as guidelines for people's behavior in traffic or legal relations in community mobilization. Related to environmental problems that occur in Indonesia, especially environmental pollution, especially air that arises from exhaust gas released by vehicles. The government has implemented regulations to tackle the problem of environmental pollution, which is by conducting emission tests on vehicles.

Research concerning vehicle exhaust emission testing must use legal theory, because this theory can be used as a basis for studying a legal issue, as Brian H. Bix said, legal theory will tell what makes regulations (norms), regulatory systems (norms).), or "legal" or "illegal", "legal" or "non-legal" institutions.¹⁰

There are two main obstacles that lead to the ineffectiveness of enforcing regulations related to environmental law in Indonesia, namely:

⁸ Priatna, Tedi, *Prosedur Penelitian Pendidikan*, Hal 2 (Malang: CV Insan Mandiri, 2017)

⁹ Peter Mahmud Marzuki, *Penelitian Hukum*, Hal 35 (Jakarta: Kencana Prenada, 2010)

¹⁰ Brian H, Bix, *Jurisprudence: Theory and Concept*, Thomson Reuter (Legal) Limited, London, hal. 9, (2009)

1. The dominance of a thought in policies that discuss development and the environment. As long as this party is involved in more development plans so that it pays less attention to environmental aspects, even though in terms of development it is necessary to pay attention to environmental aspects.
2. Not all have created good government so that in the framework of enforcing environmental law it becomes ineffective due to irregularities, violations committed by the officials themselves.

After the enactment of Article 206 of Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management and until now environmental law enforcement has not been satisfactory, this is due to Indonesia's situation which is experiencing a crisis such as forest fires which cause air pollution. This is due to the government's lack of awareness that national development must not ignore the preservation of the surrounding environment.

Actually, the crisis period has a loss for the Indonesian state. Why do we say that there is a loss? because there are more and more large-scale developments in fields that result in pollution or environmental damage, the impact on certain areas will be more severe, for example in big cities air pollution by vehicles automotive which is getting more and more users.

This happens because of several obstacles, especially for big cities, namely:

1. There is no specific legislation that regulates air pollution by motorized vehicles,
2. Not enough tools are available to investigate motorized vehicles that cause air pollution,
3. Public awareness of clean air is still lacking, and they are reluctant to use public transportation to reduce air pollution, preferring to use private vehicles, and
4. many people who have private vehicles do not take care of their vehicles, so many of these vehicles emit more emissions than usual.

This air pollution is not solely the fault of the vehicle owners but also by agencies that test imported motorized vehicles in accordance with Ministerial Regulation Number P.20/MENLHK/SETJEN/KUM.1/3/2017 concerning Quality Standards for Exhaust Gas Emissions for New Type Motor Vehicles Category M, Category N, and due to a lack of adequate equipment to test these vehicles and fuels that still contain lead. The government is indeed quite capable of making statutory regulations, but at the stage of implementation and enforcement it has not been fully implemented as contained in the statutory regulations and until now the sanctions regulated in statutory regulations have never been enforced, especially regarding motorized vehicles, even though the consequences are very dangerous for human health, plants and other environmental damage.

The government in reducing exhaust emissions from vehicles issued Presidential Decree No. 117 of 2021, which is the third change from the previous Presidential Decree, namely Presidential Decree 191 of 2014 concerning the Supply, Distribution and Retail Selling Prices of Oil Fuel. The latest regulation states that fuel with RON 88 which we know as Premium is only as Assignment fuel, which means it is abolished pending a decision from the Minister. The higher the octane used by vehicles, will maximize the reduction in carbon dioxide emission levels, as said by the Director of Downstream Oil and Gas Business Development of the Ministry of Energy and Mineral Resources, Soerjaningsih, changing from using Premium RON 88 fuel to Peralite RON 90 can reduce carbon dioxide emission levels by 14%.¹¹

¹¹ Prakoso, Rangga, Penghapusan Premium Kini di Tangan Menteri, dikutip dari laman : <https://investor.id/business/276724/penghapusan-premium-kini-di-tangan-menteri>, diakses pada 7 Desember 2022

In addition, not only changing the rules for controlling the use of high-octane fuel, the government is also managing vehicles that use electricity. At this time, with support from all sectors to achieve government programs with 0 (zero) emissions by 2060, the Government has launched preparations for the transformation from oil-fueled vehicles to electric cars or Battery-Based Electric Motorized Vehicles (BBEMV) after the issuance of Presidential Decree No. 55 Year 2019.¹² To go deeper into a development in electric vehicle components as a change in road transportation that is safe for the environment and opens up opportunities to solve current problems, the Ministry of Environment and Forestry again held a program discussion with the theme Climate Corner on Wednesday 2 June 2021 to become a realization of the government's seriousness to get rid of existing environmental problems by taking the theme "Prospects of Low Emission Electric Power Transport Modes in Indonesia". In the process of proving the criminal provisions in Presidential Decree No. 55 of 2019 it cannot be proven and still refers to the Criminal Procedure Code because there are no special provisions regarding evidentiary law in the presidential regulation.

However, the development of electric-based vehicle technology has its own challenges, namely the material for making electric batteries is still difficult because human resources are still lacking and production prices are still expensive and cannot be reached by the community. The large number of available natural resources is certainly an opportunity for Indonesia to develop industrial batteries as the main raw material for making electric vehicles, the government is currently needed to support this program so that it can reduce affordable prices for electric-powered vehicles in the future.

The lack of strict legal regulations enacted by the government makes a reproach for the shortcomings of the existing sanctions, making the perpetrators of violations of exhaust emissions by road transport reluctant to make continuous violations. In addition to the juridical obstacles that occur above as obstacles in enforcing the law on violations of vehicle exhaust emissions. Obstacles in the non-juridical structure of elements that exist in Indonesian society become a problem, both in facilitating social facilities that make a support in the field of law, as well as getting obstacles that result in them not being able to carry out or not being able to do it properly.

2. The Indonesian Government's Efforts to Overcome Environmental Pollution by Exhaust Gas Produced by Vehicles

We all know that the effects of environmental pollution from exhaust emissions are certainly dangerous, of course they are also one of the causes of global warming. Along with the large number of vehicles in circulation and the exhaust gas monitoring that not carried out, the vehicle maintenance facilities are inadequate, the lack of supply of fuel that supports environmentally friendly (without lead content), irregular transportation needs, and the continuous promotion of vehicle models. - cause ongoing negative impacts on air quality in the environment and health.¹³ The Indonesian government is always trying to overcome environmental pollution due to exhaust emissions, namely by conducting emission tests on vehicles. This emission test tests the content of gas emissions released from vehicles to reduce the negative impact of unhealthy air pollution resulting from motorized vehicle exhaust gases. If we look at Government Regulation (PP) Number 22 of 2021 Article 206, especially in paragraphs (1)

¹² Bayu Waskita, Kunta, Ini 3 Aspek Penting Perpres No. 55 Tahun 2019 Soal Kendaraan Listrik, dikutip dari laman: <https://id.motor1.com/news/550365/perpres-55-2019-kendaraan-listrik/> ; diakses pada 1 Oktober 2022

¹³ BPLHD-DKI, 2015; Erou & Fadhillah, 2019; PERMEN-RI, 1999

and (2).

What is meant by this paragraph is that people are required to carry out emission tests that have mobile Emission Source vehicles, namely vehicles used for mobilizing business activities, land transportation, and heavy vehicle transportation. In paragraph (3) it is stated that if this Emission Test is the basis for imposing motor vehicle tax rates, it can be interpreted that the Emission Test is a requirement for the processing of vehicle certificates and the extension of vehicle tax. If a motorized vehicle does not carry out an Emission Test, it will not be possible to apply for an extension of vehicle tax and vehicle documents.

If the above is a Government Regulation, as for the efforts made by the Regional Government as a step to reduce exhaust emissions, an example is the Regional Government of DKI Jakarta in Pergub DKI Jakarta No. 66 of 2020 concerning Testing of Motorized Vehicle Exhaust Emissions. The regulation states that to regulate the community in the implementation of existing value infrastructure in terms of standardization, metrology and measurement of compatibility forms a vital thing.¹⁴ From the aspect of standardization, the implementation of the emission testing process with the SNI code 19-7118 is a reference that is carried out in a measurement carried out by an emission tester in the laboratory. From the metrological aspect, the scale in the tools used to measure emissions is carried out using a pedestal that has a gas certificate to provide certainty in proven measurement results and in accordance with internationally recognized standards. Then in terms of conformity and assessment, the provisions of SNI ISO IEC 17025 must be adjusted by emission testers in the laboratory as an effort to ensure that the size is in accordance with laboratory standards or parties who have competence and obtain the correct measurement value.¹⁵

In addition to regulating emission tests, the government's effort to get rid of environmental pollution is to replace the old policy related to fuel with a new one written in Presidential Decree No. 117 of 2021. This regulation explains that fuel with an octane rating of RON 88 or Premium becomes Assignment Fuel. This step is an adaptation by society in switching from using premium fuel to fuel with higher octane levels, such as those with RON 90 or Peralite octane and RON 92 octane or Pertamina. The higher the octane level used in a vehicle, the higher the reduction in exhaust gas emissions from the vehicle. The choice of fuel that is very suitable for the vehicle used is the use of RON octane that matches the compression pressure of a motorized vehicle's engine. If our vehicle has high compression pressure in the motorized vehicle, it is recommended that our vehicle use fuel with a high RON octane rating. For vehicles that have an engine compression pressure below 9 to 1, they are still allowed to use Premium fuel oil, but for motorized vehicles with an engine compression pressure of 9.1 to 1 to 10 to 1, it is recommended to use Pertamina RON 92 or equivalent and vehicles with strong compression pressure. 10.1 and above are recommended to use Pertamina Turbo or the equivalent with an octane rating of RON 98.¹⁶

Not only are regulations related to the use of fuel according to the RON dosage, the Indonesian government is also actively introducing programs for the use of vehicles using electric energy. The use of electric-powered vehicles is one of the government's programs to reduce emission pollution, because these electric vehicles do not pollute the environment and support

¹⁴ Kompas, Langkah Yang Dapat Dilakukan Untuk Mengurangi Emisi Gas Buang, dikutip dari laman: <https://otomotif.kompas.com/read/2021/12/16/161200815/langkah-yang-dapat-dilakukan-untuk-mengurangi-emisi-gas-buang?page=all> ; diakses pada 1 Oktober 2022

¹⁵ Budiman, Harry, dkk, "Penerapan Infrastruktur Mutu (Standardisasi, Metrologi, Dan Penilaian Kesesuaian) Untuk Mendukung Pemberlakuan Peraturan Gubernur DKI Jakarta No 66 Tahun 2020 Tentang Uji Emisi Gas Buang Kendaraan Bermotor" Prosiding Seminar Nasional Aplikasi Sains & Teknologi (SNAST), (2021)

¹⁶ Nofendri, Yos, "Pengaruh Penambahan Aditif Etanol Pada Bensin RON 88 Dan RON 92 Terhadap Prestasi Mesin", Jurnal Konversi Energi dan Manufaktur UNJ. Vol 1 (33), (2018)

go green. The government has also intensified the transformation from oil-fueled motorized vehicles to electric power and made regulations, such as Presidential Regulation (Perpres) No. 55 of 2019 concerning the Battery Electric Vehicle Acceleration Program for Road Transportation. With this Presidential Decree, it is a government step to protect the environment in maintaining emissions to reduce exhaust emissions in 2060 to be reduced slowly to zero percent (Net Zero Emissions).

After the regulations regarding the transformation of the use of electric vehicles were issued, Presidential Instruction (Inpres) Number 7 of 2022 was issued concerning the Use of Battery Electric Vehicles as Operational Service Vehicles and/or Individual Service Vehicles for Central Government Agencies and Regional Governments. Currently, the government is in the process of developing batteries using nickel as the main raw material for making batteries that will be installed as components in electric vehicles. Lithium battery is a type of battery that is often used as power for storing electric power. This type of battery has the power for high energy storage, high open circuit potential voltage, fast energy charging, low self discharge, and is environmentally friendly. One example of a lithium-type battery is lithium polymer. Due to the high use of nickel batteries for electric vehicles, this can create opportunities for Indonesia in the nickel industry globally. This can be seen from the large amount of nickel resources obtained by Indonesia so that international electric vehicle battery manufacturers have a plan and will build a factory to manufacture electric battery raw materials in Indonesia.¹⁷

The instruction is one of the government's moves to carry out the transformation to the use of electric power vehicles, and the Operational Vehicles of the Central Government and Regional Heads are examples of introducing electric power to the public.¹⁸ Promoting it for the community is the government's various ways. therefore, it is not only the government's mandate to protect the environment, of course we as the people here also have to protect our environment by one of them reducing the use of goods that have exhaust emissions to avoid environmental pollution which is currently rife today.

V. Conclusion

Environmental law enforcement is a process of forcing people to follow the law based on statutory regulations. Within the framework of law enforcement related to environmental pollution by exhaust emissions, the government needs to take concrete steps, such as: 1) Legislation that regulates air pollution by special vehicles; 2) Creating capable and sufficient tools to investigate vehicles motorized vehicles that cause air pollution; 3) Educating the public, such as holding counseling regarding the dangers of exhaust emissions and recommending the use of public transportation. Therefore, the government must also ensure that public transportation is comfortable and safe for the community; 4) Educate people who have private vehicles to maintain their vehicles so that emissions are not as much as if the vehicles are not maintained

Efforts made by the Government to get rid of pollution caused by gas emissions, as in

¹⁷ Sudjoko, C, "Strategi Pemanfaatan Kendaraan Listrik Berkelanjutan Sebagai Solusi Untuk Mengurangi Emisi Karbon". *Jurnal Paradigma: Jurnal Multidisipliner Mahasiswa Pascasarjana Indonesia*, 2(2), (2021)

¹⁸ Kementerian Perindustrian, Kemenperin Dukung Langkah Transisi Penggunaan Kendaraan Listrik Untuk Capai Net Zero Emission Tahun 2060, dikutip dari laman: <https://kemenperin.go.id/artikel/23552/Kemenperin-Dukung-Langkah-Transisi-Penggunaan-Kendaraan-Listrik-untuk-Capai-Net-Zero-Emission-Tahun-2060-> ; diakses pada 1 Oktober 2022

Article 206 of Government Regulation (PP) Number 22 of 2021 which essentially explains the Implementation of Environmental Protection and Management. Many other regulations have been made, such as in Ministerial Regulation No. P.20/MENLHK/SETJEN/KUM.1/3/2017 regarding the Quality Standards for Motor Vehicle Exhaust Emissions. Of course, even though the above rules have been made, they must be implemented properly by various elements, namely the government and society.

The government has also announced a change in fuel consumption circulating at Indonesian gas stations with Presidential Regulation Number 117 of 2021 which makes BBM with an octane rating of RON 88 become assignment fuel which can be abolished by the Minister according to his authority, then transferred to fuel with a higher octane rating, such as Peralite fuel with an octane rating of RON 90, Pertamina fuel with an octane rating of RON 92, and higher Pertamina Turbo fuel with an octane rating of RON 98. The higher the octane rating we use in our vehicles and in accordance with the compression pressure of our vehicle's engines, it will emit high levels of exhaust gas emission of carbon dioxide is decreasing.

The more sophisticated technological developments that occur, such as vehicles using electric power. This technology can answer the problems that occur for the prevention of environmental pollution due to exhaust emissions. And currently the government is trying to develop batteries as the main component of electric cars and this has made a number of foreign companies compete to build nickel smelting factories and manufacture batteries in Indonesia. The government makes regulations regarding the transformation of energy use in vehicles from oil-fueled to electric power which are listed in Presidential Regulation (Perpres) No. 55 of 2019 concerning the Battery Electric Vehicle Acceleration Program. In addition, there is a recent regulation issued by the President of Indonesia through Presidential Instruction (Inpres) Number 7 of 2022 which essentially requires the Vehicle Operations Services or Individuals from the Central and Regional Governments to use electric-powered vehicles. This effort is considered good for promoting the use of electric power in motorized vehicles, so that people know how big the effect is if they use vehicles that produce exhaust emissions, then switch to electric power. However, the development of electric-based vehicle technology has problems because the materials for making electric batteries are still difficult, human resources are still lacking and production prices are still expensive, which cannot be reached by the community.

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