

# The Effect of FABA Removal from B3 Waste List on Indonesia's Commitment at Cop-26 in Climate Actions

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**Abstract.** The government's role in reducing emissions shows the fact that the existing regulations have not supported both sectors yet, especially in the energy sector. Indonesia has occupied the third position as the largest coal producing country in the world. In 2020, Indonesia produced 562.5 million tons of coal and it was 606.2 million tons in 2021. Based on the results of COP-26 Glasgow, it has increased the trust and real modalities for the implementation of the various elements of the Paris Agreement. The meeting discussed matters related to the Glasgow Climate Pact COP-26, which explicitly planned to reduce the coal which is called the worst fossil fuel for greenhouse gases. Government Regulation No. 22 of 2021 concerning the Environmental Protection and Management has removed coal ash waste or fly ash and bottom ash (FABA) from burning coal from the list of hazardous and toxic waste (B3). The research method used normative juridical method, namely legal research with a qualitative approach method. From the researchers' observations, removing FABA from the B3 waste list adds to the long list of efforts in climate control actions. In fact, there has no readiness yet in the field and Indonesia is vulnerable as a country to the adverse impacts of climate change. Therefore, it is important to re-evaluate the policy.

**Keywords:** Climate Policy Action, Emission Reduction, FABA Risk

## 1 Introduction

Climate change is an ongoing phenomenon that will escalate along with its impacts. This event is irreversible and poses a risk of damage to nature including by rising the sea levels. This risky climate change requires control action as a challenge in the era of globalization because its real impact has touched all people all around the world. Indonesia is a country that is vulnerable to the negative impacts of the climate change and the frequency of the change phenomenon has been felt. It can be seen from the uncertainty of weather changes in some areas, excessive rainfall intensity that increases the risk of flooding and temperature that increases in the dry season. The climate change is caused by natural variability or all human activities, so it is necessary to control the phenomenon so as not to have a negative impact that worsens human health conditions in general, economic development and climatic conditions. The change in climatic conditions in a form of an increase in greenhouse gas emissions (carbon dioxide, methane, nitrogen oxides and other industrial gases) is caused by human activities. In the last 50 years, the increase phenomenon represents the highest number in history and is unprecedented since 800,000 years ago.

The Indonesian government has committed to climate control actions by reducing emissions by up to 29% in 2030 as an emission reduction target based on an assessment carried out in 2010 for the National Action Plan for Green House Gases Emission Reduction (RAN-GRK). Based on the business-as-usual scenario, Indonesia's emissions are projected to be 2.881 GtCO<sub>2</sub>eq in 2030. Indonesia will reduce its national emissions by also using international support up to 41% emission reductions by 2030. An additional 12% of Indonesia's emission reductions will come from the international agreements, among others through bilateral cooperation covering technology transfer, capacity building, payment for performance mechanisms and technical cooperation assistance, as well as access to international funding.

Related to the results of COP-26 (Conference of the Parties), Glasgow increases the trust and real modalities for the implementation of the various elements of the Paris Agreement. The meeting discussed matters related to COP-26 of The Glasgow Pact, which is said to be the first climate agreement to explicitly plan to reduce coal, which is called the worst fossil fuel for greenhouse gases. However, all state parties including Indonesia have stated an agreement to fulfill the obligation to implement the results of the COP-26 negotiations and the Paris Agreement in the end. Therefore, regarding the commitment to achieve the targets made in Paris, Indonesia invites all parties to jointly take action based on the principles of the Convention, as well as the Paris Agreement [1].

The commitment to the Paris Agreement by the Government of Indonesia includes two sectors, namely the forestry sector and the energy sector. However, the government's role in reducing emissions shows the fact that existing regulations have not supported both sectors yet, especially in the energy sector. Indonesia itself occupies the third position as the largest coal producing country in the world. In 2020, Indonesia produced 562.5 million tons of coal and it was 606.2 million tons in 2021. This is reinforced by the revision of the mineral and coal law which accommodates massive investment in coal classification and plans to use it as a derivative product as a substitute for LPG (Liquefied Petroleum Gas) so that it does not reduce the use of coal at all. In addition, in Article 459 letter c of Government Regulation No. 22 of 2021 Concerning the Environmental Protection and Management, the Government of Indonesia has removed fly ash and bottom ash (FABA) from coal combustion from the list of hazardous and toxic waste (B3). This policy has drawn reactions from various levels of society. Environmental groups consider that the policy does not take side the environmental protection. The Indonesian Center for Environmental Law (ICEL) regrets the issuance of the PP because it is considered a threat to public health and the environment. Moreover, this removal is also considered to have created environmental injustice with the potential for distribution of impacts or risks to the environment and public health as well as a perception of lax law enforcement against business actors producing FABA so that the government is urged to immediately revoke the loosening of the regulation [2].

It is essential to note that the content of FABA is a heavy metal that is harmful to health because it contains mercury and arsenic. FABA in the form of dust that floats in the air more easily infects living things around it. In the long term, there can be an accumulation of heavy metals in the bloodstream and overall health effects such as cancer and lung disease. Meanwhile, it can cause coughing and respiratory problems (URTI) in the short term. Moreover, people living around industrial areas have lower health condition.

Business activities, such as coal mining, in essence, should not be a cause of loss for certain parties or the majority group (public). Likewise, nature which is the source of providing mining materials (natural resources) should not be disturbed because it will destroy the balance of ecosystems, the ecology which results in damage of environment. One of the

negative impacts of coal ash that causes air pollution occurs in the Marunda Hamlet, North Jakarta and its surroundings. The existence of the air pollution is felt directly by local residents, both for respiratory health and the housing environment which is easily dirty by coal dust. However, on June 15, 2022, Marunda residents who were accompanied by LBH (Indonesian Legal Aid Foundation) Jakarta submitted a complaint to the DKI Jakarta Provincial Government and Komnas HAM (National Commission on Human Rights) with the aim of urging tougher sanctions on the perpetrators of the coal mining company. On the one hand, all efforts have been made to minimize the situation, but it is still a long way to go and more efforts are needed as an evaluation material for the policies issued by the Government.

Based on the problems described above, it strengthens the evidence further that the removal of FABA from the list of B3 waste as stipulated in Article 459 letter c of Government Regulation No. 22 of 2021 Concerning the Environmental Protection and Management has provided a legal gap that can harm many parties, and allows the careless disposal of waste if there is a lack of control. Therefore, Low Emissions Development Strategy (LEDS) is needed in which it emphasizes the importance of moving away from fossil fuel subsidies and investing more in renewable energy. The government efforts are not ambitious enough to reduce the emissions and the policies should be implemented to prevent legal gap instead of causing it or merely focus on implementing the sanctions.

## **2 Method**

The research method used the normative juridical method. It is library law research which is carried out by examining the library sources or secondary data. Using a qualitative approach method can provide an overview of the symptoms that occur in the community related to the research. The approach used legal and conceptual approach with literature study and deductive logic analysis techniques.

## **3 Discussion**

### **3.1 Commitment to Climate Change Control**

In the context of global climate recovery action, the Government of Indonesia signed the Paris Agreement on Climate Change on April 22, 2016. The Paris Agreement is a monumental global agreement to deal with climate change. This commitment was also made by countries declared through the National Determined Contribution (NDC) for the period 2020-2030 and pre-2020 actions. In addition, it was supported by 195 countries. Indonesia itself has joined as one of 55 countries that have ratified as a country that contributes at least 55% of greenhouse gas emissions. It is based on the consideration of the importance of providing a good living environment for its citizens in accordance with the mandate of the 1945 Constitution [3].

Indonesia is a country that is vulnerable to climate risk. Therefore, the NDC update is a commitment made by improving programs, strategies, and actions aimed at achieving economic, social and livelihood resilience, as well as ecosystems and landscapes. On the other hand, strengthening the mitigation and adaptation as a serious measure adopted by Indonesia over the Paris Agreement Rules Book (Katowice Climate Package) which was recently adopted in the national context is to ensure the effectiveness and efficiency in implementing

the agreement. This method is in line with national development and the long-term vision of the Long-Term Strategy on Low Carbon and Climate Resilient Development 2050 (LTS-LCCR 2050) which has just been adopted. By the existence of NDC update, it presents a sustainable vision of countries with the most carbon emissions beyond the Paris climate targets, and strikes a balance between emission reductions and future economic development. The long-term strategy also outlines Indonesia's goals to reach a national peak of GHG emissions by 2030, with the net sink is in the forestry and land use sectors, and attempt to progress further towards the net-zero emissions by 2060 or sooner. Similarly, the strategy aims to reduce the country's potential GDP loss by 3.45% due to climate change by 2050 and it is conducted by increasing resilience in four basic socio-economic development needs: food, water, energy, and environmental health [4].

The following are some of the main points formulated and agreed upon in the Paris Agreement: [5]

1. Countries that are members of the UNFCCC (195 countries) agree to reduce CO<sub>2</sub> emissions, strengthen resilience and adaptation, and cooperate in real action to tackle climate change.
2. One of the core of the Paris Agreement is to prevent the increase in the average temperature of the earth's surface below 2 degrees Celsius and attempt to limit the increase below 1.5 degrees Celsius.
3. In order to realize the point above, as much as 32 Gt of CO<sub>2</sub> emissions must be trimmed and reduced by 2050. It will require additional investment cost of US\$ 40 trillion to make the transition to a low carbon economy.
4. The long-term goal to be achieved is “net zero emission” after 2050.
5. The countries agreed on the obligations of developed countries to continue the provision of climate finance assistance to developing countries.
6. The agreement binds all parties to prepare and report periodically on the implementation of their emission reduction commitments, and developing countries are encouraged to do more in reducing emissions.

In 2021, a high-level conference on climate change prevention, namely COP-26 (26th Conference of Parties) was held in Glasgow, United Kingdom. Furthermore, it lasted for 14 days, from 31 October to 13 November 2021 and it was attended by approximately 2500 delegates from 200 countries. The delegation included 120 heads of state and they carried out intense negotiations to reach a consensus on accelerating actions to prevent climate change and reduce carbon emissions. COP-26 is considered as one of the most important conferences after COP-21 in Paris. It is because each country is required to renew its NDC every five years, starting from 2015 when COP-21 took place. The results of the negotiations at COP-26 became very critical in order to maintain the achievement of the goals in the Paris Agreement. It was considering that the actions were not in line with the objectives in the past five years. Without an aggressive and binding policy, the rising global temperature will continue. COP-26 resulted in the Glasgow Climate Pact, which is an agreement reached by all participating countries. Some parties expressed their disappointment with the agreement in the Glasgow Climate Pact. One of them is Director of International Climate Initiative of the World Resources Institute (WRI), David Waskow. The disappointment was mainly due to the fact that the use of coal was not expressly stopped as soon as possible under the Glasgow Climate Pact. Instead, it was set to be phased out. However, the existence of the Glasgow Climate Pact also needs to be appreciated as a form of maintaining the commitment of all countries in preventing a global temperature increase of up to 2°C [6].

Based on the description of several commitments above, it adds to the long list of work for many parties including the Government of Indonesia. It is because the officials who are authorized to form and participate in mobilizing actions on climate control, including paying attention to the formation of regulations resulting from joint discussions. Furthermore, it is conducted by observing the real conditions in the field in order to consider the policies that are not detrimental and have a negative impact. A road map, that can save the climate especially in Indonesia, is to use the solar energy as renewable energy. It is carried out by abandoning fossil energy in order to achieve climate justice. The technical potential of solar energy based on land availability reaches 3,000 GW-20,000 GW and the technical potential of clean energy in Indonesia is not only solar, but also wind, water, and geothermal. If the potential is optimized, it will achieve zero energy emissions in Indonesia by 2050 [7]. To realize the change, the concept of climate justice is about limiting emissions per capita of each country which is a parameter of climate control. Therefore, the Government of Indonesia needs to suppress the interests of several stakeholders with high awareness considering the international commitments or agreements as an international legal instrument. As we know that the adverse impacts of climate change are a major threat to human life and the environment, so it is the duty of the state to protect all its citizens.

### **3.2 Contradiction of FABA Status Removal from Hazardous Waste**

In order to carry out efforts to control and protect the impacts of climate change, which have become the global agenda, a form of international cooperation framework is needed to overcome the global problem of climate change. The Paris Agreement is a form of the United Nations framework on climate change as well as the latest commitment of countries in the world. In line with the Second Principle of Pancasila, namely Just and Civilized Humanity, which mandates that the Indonesian people feel themselves as part of all humanity and the Indonesian nation develops an attitude of respect and cooperation with other nations; so Indonesian nation needs to participate in the global climate change agenda, in this case, participating in the Paris Agreement [8]

Human rights and the environment have a direct relationship in improving the condition of the nation and state. It is because legal protection of human rights also one way to protect the environment. Therefore, human rights and the environment are dependent on each other. Since many countries have violated human rights, it also leads to environmental damage. A country must be able to provide their environmental protection arrangements in order to simultaneously protect the human rights, especially those related to the issue of the right to life. The right to life refers to the right to a decent life and livelihood, namely a good and healthy environment [9].

The issuance of the classification of coal ash waste or fly ash and bottom ash (FABA) resulting from coal combustion from the list of hazardous and toxic waste (B3) on February 2, 2021 through Government Regulation Number 22 of 2021 concerning the Environmental Protection and Management, which is a derivative of Law no. 11 of 2020 concerning Job Creation has amended, deleted, or stipulated new arrangements for several provisions of Law Number 32 of 2009 concerning Environmental Protection and Management, especially related to environmental approvals (environmental permits in Number 32 of 2009) which are integrated with business permits. This policy is considered a climate policy contradiction which shows the Indonesian government's climate commitment is not manifested in the cross-sectoral policies. This climate policy is seen as a separate policy and only becomes the form of international diplomacy without being seriously integrated in the cross-sectoral policies.

The removal of FABA from the list of B3 waste is contained in the amendment to Table 4 which contains a list of B3 waste from specific sources in Annex IX of Government Regulation No. 22 of 2021, which is an integral part of the Government Regulations thereof. Fly ash (Waste Code/KL: B409) and bottom ash (KL: B410), in the old rules on the waste source column, were described as originating from the coal combustion process at Steam Power Generation (PLTU) facilities, boilers, and/or industrial furnaces and they are categorized as hazardous. However, in Appendix IX of Government Regulation No. 22 of 2021, the phrase "coal burning process at PLTU facilities" is removed. Therefore, FABA from the combustion process in boiler facilities and/or industrial furnaces is still categorized as B3 waste while coal FABA is included in Appendix XIV which is designated in the registered non-B3 waste. Countries in the world have different views on FABA, especially fly ash. The United States, Canada, European Union, Russia, Japan, China, India, South Korea, Australia, South Africa, and Vietnam are examples of countries that treat FABA as non-B3 solid waste. The non-categorization of FABA as B3 waste in those countries triggers the level of its utilization. [2]

This different opinion have emerged since the stipulation of the policy because if it is seen from the facts on the ground, there is direct negative impact on residents in the Marunda Flats area, North Jakarta and its surroundings. The existence of the air pollution is felt directly by local residents, both for skin health, respiration and the housing environment which is easily dirty by the coal dust. The research conducted by Juciano Gasparotto, et al. mentioned that the results of burning coal become toxic compounds when they are released into the atmosphere. Furthermore, other adverse effects are asthma, lung cancer, and respiratory tract infections, congestive heart failure, and strokes [10] Other bad effects also occur on the nervous system, digestion, eyes, kidneys, and they can cause disability in babies [11] Coal contains mercury if it is contaminated with water. These elements are carcinogenic, neurotoxic and toxic to humans, fish, aquatic biota, and wildlife. In fact, it does not strengthen the implementation of the supervision and management of coal from power plants which can minimize the risk of exposure by relaxing this regulation [12]. In addition, the fly bottom has a fairly high carbon content. The high carbon content is caused by the incomplete combustion of coal, so that there is still unburned coal [13]. Carbon is one of the gases that can damage the blanket of the atmosphere so that it has the potential to cause the greenhouse effect. As we know that the greenhouse effect is the process of radiation entering the earth from the sun and it is trapped due to the greenhouse effect which can raise the earth's temperature. The increase in carbon dioxide (CO<sub>2</sub>) and other gases comes from the combustion of fuel oil (BBM), coal, and organic fuels that have an impact on climate change. It is important to acknowledge that coal burned in power plants produces toxic elements that are concentrated in the combustion products, namely fly ash and bottom ash. When FABA interacts with water, the toxic elements can be slowly leached, including arsenic, boron, cadmium, hexavalent chromium, lead, mercury, radium, selenium, and thallium into the environment [14].

On the other hand, the utilization of FABA in Indonesia has reached 0-0.96% for fly ash and 0.05-1.98% for bottom ash because only a few national steam power plants have obtained utilization permits. It also happens with the permits for landfilling which are carried out in a B3 landfill facility whose capacity is also limited. Therefore, most of the FABA produced by the PLTU accumulates in the storage areas that do not fulfill the criteria for storing B3 waste. FABA that is not managed properly is actually considered more dangerous for the environment and the community around the power plant. The pretext for removing FABA status from B3 waste is considered to be able to avoid or minimize corrupt practices that are rife in licensing and waste management circles because when FABA was still in B3 waste

status, the cases were rampant showing that the licensing system and waste risk management which were not effective or very bad. It is one of the considerations for removing FABA from the list of B3 waste. In addition, the removal of FABA status has the potential to increase investment and utilization if it can be managed properly. In this case, the Government seems to give the impression that B3 waste can only be utilized if it is categorized as non-B3 waste. In fact, B3 waste can still be utilized by going through various tests of specific characteristics based on the source of each of these B3 wastes as regulated in Government Regulation No. 101 of 2014 [15]. Based on the description above, any easing of this rule will have a very dangerous impact on the environment particularly after the removal of FABA status from B3 waste. It is because it will not change the behavior of the permit owners and let them to return to illegal disposal of waste, especially if they acknowledge that FABA status is non-B3 waste.

Coal mining so far is one of the natural resources that makes a very significant contribution to economic development in Indonesia. However, looking from the facts on the field, the Indonesian government should not be in a hurry to implement the policy. It is due to social conditions that have not been fully prepared yet. In addition, Indonesia has vulnerability to the adverse impacts of climate change as a country, so it is important to carry out a fact-based evaluation as a material for reconsideration of the policy. The loosening of the rule is very unfavorable for those who are directly affected by FABA waste. Therefore, it creates pros and cons among the community in general and the Government is considered to have violated its commitment to climate control.

The energy sector will be Indonesia's largest source of emissions surpassing the land-based sector. Fossil energy sources are still the foundation of national energy fulfillment, as well as the national export income. Indonesia's exports still depend on the extraction of dirty energy sources and it is not so different from the past. The existence of the right to the environment and human rights in the national legal mechanism is guaranteed by the constitution. The changes, in this case, are based on fair policies reflecting the Preamble to the 1945 Constitution of the Republic of Indonesia (UUD NRI 1945). Furthermore, the Government needs to participate in efforts to control and protect the impacts of climate change.

## **4 Conclusion**

Climate change is caused by natural variability or all human activities. Therefore, it is necessary to control the activities so as not to have a negative impact that worsens human health conditions in general, economic development and climatic conditions. The change in climatic conditions is in the form of increased greenhouse gas emissions caused by human activities. Easing of Government Regulations Number 22 of 2021 concerning the Environmental Protection and Management which removes FABA from the B3 waste list further adds to the long list of efforts and has a negative effect on climate actions. In fact, the field conditions still have no readiness yet and Indonesia is vulnerable to the adverse impacts of climate change as a country. It is important to re-evaluate the policy. Therefore, Indonesia tends not to be able to carry out the commitments agreed at COP-26 Glasgow.

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