THE CONTROVERSY OF REMOVING FABA FROM THE B3 WASTE LIST

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Abstract
The removal of fly ash and bottom ash (FABA) from the list of B3 waste-removal, caused controversy in society. A number of non-governmental organizations and people around the Power Plant (PLTU) have protested this policy. They said as FABA is designated as B3 waste only, its management was haphazard, even less if it’s lax/unbound. Meanwhile, the policy has been supported by the electrical which used coal as the fuel source. They argued there had been a lot of previous research on FABA which led to the safe use of them. Some developed countries even categorized them as non-B3 waste with high usage levels. This paper is explaining about FABA’s neutral reasons for categorizing them as non-B3 waste and the follow-up plans which government needs to ensure FABA’s widespread and safe use. The Parliament with the function of legislation and surveillance, needs to ask the government for information on the removal, moreover, the Government Rules No. 22 Year 2021 is the basis for elimination, derivative of the Omnibus Law & Job Creation Act.

Introduction
The government has removed coal ash or FABA from the coal waste list of hazardous and toxic waste materials on February 2, 2021, by making the Government Rules No. 22 Year 2021 about the Effectuation of Protection and Management of the Environment. This beleid was a derivative of Rules No.11 Year 2020 about Omnibus Law & Job Creation Act that has been changed, erased or set out some new arrangements of provisions from Act No.32 about protection and management of the Environment, especially with ward approval (ward permits on No.32 Year 2009) integrated with stried license.

The more complex changes were actually seen in the Government Regulations No.22 Year 2021, which changed, deleted, or stipulated new provisions of the Government Regulations No.101
Year 2014 about management of B3 waste. In general, the change in terms of Government Regulation No.22 Year 2021 is attributed to the issue of environmental agreement that is the pre-dominant pre-requisite for development permits or government approval, so that B3 waste management no longer needs a separate permit from the venture to do storage activities, collection, transporting, utilization, processing, or stockpiling.

The removal of FABA from the B3 sewage list is in a change of Table 4 that contains a list of B3 waste and a specific source attached to Government Ordinance IX No.22 Year 2021, which is unseparated from the regulations. *Fly ash* (Waste Code/WC:B409) and *bottom ash* (Waste Code/WC: B410), which was categorized as a dangerous assessment 2, originally they were described as the waste from coal-burning process on the Steam-Power Plant facilities, boiler, and/or industrial furnaces. But in Appendix IX of Government Rules No.22 Year 2021 in a phrase: “the incineration process on the Steam-Power Plant facility” was deleted so that the FABA which was generated from the burning process of boiler and/or industrial furnaces were only categorized as B3 waste, whereas FABA of coal were included in Appendix XIV and was designated as the non-B3 listed sewage category. It tried to discuss neutrally whether the policy of removal by government was a correct solution and what kind of follow-up plans the government needed in order to ensure the widespread and the safe use of the FABA in the aftermath of Government Rules Year 2021.

**What FABA actually is**

*Fly ash* and *bottom ash* are the solid waste which were resulted from the coal burning on Steam Power Plant facility. There are three types of coal burning known in the power industry, namely *dry bottom boilers*, *wet bottom boilers*, and *cyclon furnace*. The most commonly used type was *dry bottom boilers*. The type of arson resulted in ashes that are roughly 80% of *fly ash* that flows into the gas funnel is collected as the *bottom ash* which remains at the bottom of the furnace (Wardani, 2008).

*Fly ash* is a material that has a smooth, greyish grains in size and contains of chemical elements, such as silica (SiO2), aluminium (Al2O3), fero oxide (Fe2O3) and other additives (Wardani, 2008). Whereas the bottom ash is a mixture of coal ash, quartz, and broken wall of the *furnace* during the blazing process (Winarno, 2019). Burning coal will produce solid pollutants called FABA of about 5-20% of the consumption weight of coal, depending on the technology of combustion used. The high consumption of coal causes FABA capacity produced by the Steam Power Plant to be prodigious.

And what harm does FABA bring to people to the environment and ecosystem? Its small size and heavy metal content make FABA dangerous when it is exposed to environment media. Repeated exposure to FABA can cause irritation to the eyes, skin, nose, throat, and respiratory tract, even resulting in arsenic poisoning. *Fly ash* can even reach a subsoil and eventually causes deposition, block a natural drainage system,
and contaminate water with heavy metals (Wardani, 2008).

**Pro-counter of Deletion**

This policy was reaping reactions from various communities. Environmentalists judged that it was not in favor of environmental protection. Indonesian Center for Environmental Law (ICEL) lamented the publication of such government regulations was treated as a threat to public health and environment. Other reason, it was also believed that the elimination had an impact for the environmental injustice with potential distribution of risks to the environment and health of the public, and promoted a perception that law enforcement of FABA producers was pushing for an immediate breach of the policy.

On the other hand, the Association of Indonesia’s Coal Companies (AICC) asserted it was really appropriate. FABA’s management in the developed countries are now extensive, and even reached 44.8-86%. Most countries have many different points of view about FABA, especially fly ash. The United States, Canada, European Countries, Russia, Japan, China, India, South Korea, Australia, South Africa, and Vietnam are examples of countries that adopted FABA as non-B3 solid waste. Instead of referring to FABA as B3 waste in these countries, it triggers the level of its use. For example, India has used it up to 67% in 2018, Dutch 100%, Denmark 90%, Germany 79%, Belgium 73%, French 65%, England 20%, Japan 92%, China 100%, and Vietnam 60% (Ekaputri et.al.,2019).

Indonesia, however, since the Government Regulations are into force, about B3 waste management, Faba has been classified as B3 waste so that its management follows the B3 waste management regime. The management of the B3 waste is familiar with the cradle to grave principle which is from its production to its destruction is treated with with prudence. The storage, collection, removal, processing, usage, and stockpiling of B3 waste, require separate permits, strict monitoring, and compulsory acceptance of waste between parties accompanied by manifest. This made it difficult for the FABA Steam Power Plant to manage because its cost management is too high. The author saw that FABA’s management was at a high cost in the past and that is now the underlying problem. The effect was obvious, the steam power plant was unable to manage the FABA produced in large quantities. Besides, in Indonesia FABA used just reached 0-0.96% for fly ash and 0.05-1.98% for bottom ash because only a few National Steam Power Plants have permits. In the same way, as our affirmative stockpile at the B3 landfill facility is also limited so most of the FABA produced by Steam Power Plant are stockpiled in a container without following the B3 waste storage criteria.

Unmanaged FABA is deemed to be more dangerous to the environment and the communities around it. An unprotected piles of FABA from exposing to sun, wind, and rain enables FABA to be mobilized to the environmental media, and affect human beings around the Steam Power Plant, which become the reasons for environmental and civic
organizations to disagree with the policy of removing FABA from the B3 waste list. However, the government is accused of breeding for long periods of time abuses.

Instead, many kinds of studies showed that FABA could be used as construction materials, such as portland cement, bricks, light concrete, construction materials for roads, soil work materials, grouting mixed, soil stabilising for road construction and land stabilization for troubled soils in Indonesia, it can even be used as a base layer of the final dump (TPA) or any other construction that requires high permeable soil (tight). The Indonesian Businessmen Association (IBA) explained that FABA produced by the Steam Power Plants and non Steam-Power Plant were around 10-15 million tons yearly, with the management cost around IDR 50 billion to IDR 2 trillion. FABA’s material for potential use on various applications is claimed to be IDR 300 trillion a year.

Verifying Government Commitment to the Environment

Ministry of Environment and Forestry invited everyone to look the opportunities at FABA’s use positively and linked it to the circular economic concept. Yet, some environmentalists still considered it a misappropriation if the circular economic concept was used to remove coal FABA waste from B3 waste list. The real goal of circular economics was to remove waste starting from the design stage, not end of pipe.

Ministry of Environment and Forestry explained that not all of the coal FABA was removed from the B3 waste list. The kind of FABA that came out of the B3 category was into non-B3 waste, which was the ash that produced from burning systems with pulverized coal (PC) boiler, and the burning process into vessels was covered with coal solution which had been smoothed previously. While for the process of burning coal on the stocker boiler and/or industrial furnaces still goes on the B3 waste list by the reason for combustion of a PC boiler to ensure its high temperature, so the resulted FABA contains very low carbon level and tends to be more stable. Directorate General of Waste and B3 Management (PLSB3, Rosa Vivien Ratnawati, explained that KLHK rules should have scientific reason or scientific based knowledge.

But something is missing from the media this month regarding the legalizing of Government Regulations No.22 Year 2021, in addition to FABA, there are about 8(eight) kinds of waste that have to be removed from the B3 sewage list through this Government Rules Appendix IX, such as steel scale (KL:B402) and nickel slag (KL:B402) for all kinds of fusion technologies; iron centrate (KL:B405), mill scale (KL:B406), iron/steel ash (KL:B407), and PS ball (KL:B4080) for any kind of ore smelting other than using low frequency induction furnace technology or cupola and/or reheating furnace process; dreg and grits (KL:B412) for all recovery black liquor processes from virgin pulp industry; and spent bleaching earth (waste code:B413) for oleochemical industry processes and/or processing animal or vegetable oil with less than 3% of its content. The government should also be able to deliver scientific based knowledge about the erasing 8 (eight) kinds of waste above from B3 waste list, such as the government explanation of the reason to erase them.
Closing

The media and public often associate FABA retraction from the B3 waste list with legislation No.11 Year 2020 about Omnibus Law on Job Creation Act. The people that “blame” it scanned on various platforms of digital media. Whereas the law doesn’t normalize this arrangement in its main idea, either directly and indirectly. It certainly aggravates the image of parliament in the society. Through the surveillance function. Commission IV of Parliament needs more insight into the government’s plans ensure the FABA use spaciously after FABA establishing as a listed non-B3 waste. The plans need to involve many parties, especially those who has mastered the technology and those who were the processed FABA user, so that the FABA waste that have been dormant in the environment could be harnessed immediately without further environmental impact.

Through the legislation function, Commission IV of the Parliament needs to get explanation from the government regarding to the reason for the elimination of FABA. More specifically, the reason for the removal of other 8 (eight) kinds of waste from the B3 sewage system list by changing of Appendix IX of Government Regulations No.22 Year 2021. There are indications of the influx of other interests that are not compatible with the spirit of Omnibus Law through its administration. The government will need to convince the public and parliament that the 49 rules of Omnibus Law conductors that has been set clean of other interests like a controversy over the President’s Rules No.10 Year 2021 about the Investment Industry that banned the alcohol industry from the negative investment list that led to the President’s inclusion plan.

References


