Chapter 5

Policy Recommendation

August 2017

This chapter should be cited as

ERIA (2017), 'Policy Recommendation', in Motokura, M., J. Lee, I. Kutani, H. Phoumin (eds.), *Improving Emission Regulation for Coal-fired Power Plants in ASEAN*. ERIA Research Project Report 2016-02, Jakarta: ERIA, pp.41-44.

Chapter 5

Policy Recommendations

1. Campaign against CPPs

The merit of coal is that it is less expensive than other fuels and can generate power at low cost. In countries with a low electrification rate, coal is an optimum power generation fuel for enhancing the electrification rate at low cost. Furthermore, the world's largest thermal coal export country, Indonesia, is in the ASEAN region and the world's second largest thermal coal export country, Australia, is located close to ASEAN.[2] With lignite included, many ASEAN member countries have coal reserves. From a viewpoint of energy security, coal is a procurable fuel in the ASEAN region or from a neighbouring country; its utilization helps enhance self-sufficiency in the ASEAN region.

Thus, coal is an optimum power generation fuel for ASEAN in terms of both cost and energy security. However, the combustion of coal emits air pollutants, such as sulphur oxides (SOx), nitrogen oxides (NOx), and particulate matter (PM), harmful to human health and the environment. Consequently, campaigns against existing CPPs have been launched, and have started other campaigns against the construction of new CPPs, forcing some new projects to be halted or cancelled. For ASEAN countries, minimizing the emission of air pollutants is a precondition for the future use of CPPs. But here the problem is regulating the emission of air pollutants from CPPs. To reduce the emission of air pollutants, it is required to create regulations and properly manage and operate them.

Based on this awareness, this study surveys the regulations on the emission of air pollutants (including emission standards and implementation of the regulations).

2. More stringent level of emission standards of air pollutants from CPPs

This survey revealed that in ASEAN countries environmental laws have been enacted to identify the air pollutants to be regulated and to set emission standards. The problem is the emission standard

[2] Source: International Energy Agency, Coal Information 2016.

level. Compared to OECD countries, the emission standards are low in many ASEAN countries depending on the country or the type of air pollutants.

Thus, it is important to raise the current emission standards of air pollutants from CPPs to the level equivalent to OECD countries. This is because a more stringent level of emission standards is essential for responding properly to the campaign against CPPs occurring in ASEAN countries. Additionally, making the level of emission standards more stringent can reduce the emission of hazardous air pollutants from CPPs and contribute to the reduction of health hazards to residents.

However, a gradual tightening of emission standards may be required according to each country's capability. Raising the level of emission standards can lead to an increase in environmental expenses or an increase in electricity tariffs. The importance of strengthened regulations cannot be understated, but national and government financial capabilities also need to be considered.

3. Finance and international cooperation

Expensive environmental facilities need to be installed in CPPs to reduce hazardous air pollutants by tightening the emission standards of air pollutants. This imposes a heavy burden, especially on low-income countries in the ASEAN region. The most desirable method of sharing the cost burden is to pass on additional costs to end-consumers according to their electricity consumption. If passing on increased costs is difficult, it may put a temporary subsidy burden on the government. This is not sustainable in the long term; therefore, it is recommended to stop providing subsidies to electricity consumers as early as possible.

There are several ways of financing capital expenditure. For borrowing, there are two options: one is from domestic financial institutions, the other is from international financial institutions. Domestic financial institutions are free from exchange risks; however, they may not have the practical knowledge of large-scale financing for energy. For international financial institutions, long-term borrowings can be made at low interest rates; however, there are exchange rate risks and loan procedures sometimes take time due to strict loan terms. Generally, the installation of environmental facilities can be a good funding destination. On the other hand, financial institutions have their own view of loans for coal-fired power generation alone. Some financial institutions put restrictions on loans for new CPP construction, which may limit the funding sources. There are many types of loans and there is no one special way. A careful decision is required in view of the circumstances including the factors mentioned in this document.

A combination of financing options can be used to construct new coal-fired power plants. For example, private funds such as independent power producers and private finance initiatives can be used for construction. These approaches have the advantage of constructing a new CPP without increasing public debt, resulting in promoting technology transfer through the operation of developed countries' companies.

4. Monitoring system

Raising emission standards of air pollutants from the CPPs to the level equivalent to OECD countries and installing environmental facilities in the CPPs will not be the end of the matter. As a first step, the installed facilities need to be maintained/managed for proper operation. Second, constant monitoring and recording are required to ensure that the facilities can provide guaranteed performance and the air pollutants concentration level is kept below the standard. Third, measurement results need to be released to local governments and residents for assuring proper operation of the CPPs.

The first step is nothing special; however, some facilities cannot guarantee performance in the CPPs in developing countries due to the lack of operational experience and maintenance. The continued proper operation of environmental facilities serves as the base to gain an understanding of residents.

Regarding the second and third steps, the CPPs need to show evidence of complying with the laws and regulations to gain the trust of residents. Without information disclosure, residents living near a CPP have no means of knowing if the air pollutants emission level is kept below the standard. Therefore, the residents may still raise concerns about the CPP, even if they run properly. Hazardous air pollutants are emitted not only from CPPs but also from industrial boilers and automobiles. A negative image of CPPs, however, prevents residents from distinguishing among these pollution sources. CPPs are requested to continually provide transparent data to protect themselves.

Under these circumstances, a highly transparent system is required to monitor the air pollutants concentration level both for CPPs and local regions. This can be a challenge for countries that have never created such a system. It is recommended to create a system to monitor the air pollution situation and to establish an international cooperative framework for proper operation and information disclosure on the system, and to provide capacity building for central and local governments and CPP operators. Cooperation will bring mutual benefits to both ASEAN countries and cooperating countries, encouraging them to build a win–win relationship.