Renewable Energy Still Becomes Alternative

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In recent years renewable energy development is done by many parties to anticipate future energy scarcity. Nevertheless, the use of renewable energy in Indonesia does not seem to be the first choice in fulfilling the energy needs of society. Fossil energy is still the primary choice whereas renewable energy is only an alternative. this was delivered by a member of staff of Ministry of Energy and Mineral Resources, Ir. Agung Prasetyo, M.T, in the Symposium on *The Role of Chemistry in Supporting Food Security and Energy*, held by the Department of Chemistry of Faculty of Mathematics and Natural Sciences UGM.

In order to overcome energy issues, Agung said that the Ministry of Energy and Mineral Resources is currently trying to change the paradigm in the management of energy from supply-based management to utilization-based management. Going forward, government will more optimize energy requirements by maximizing the provision and utilization of renewable energy "Up to now, renewable energy is only used as an alternative, fossil fuel is still the primary one. Therefore, we consider changing the existing paradigm, fossil energy will be used as a balancing factor to maintain energy security," he explained on Thursday (20/9).

Energy expert, Prof. Drs. Karna Wijaya, M.Eng., Dr. rer.nat said there are three things that must be done by the government to strengthen energy security. They are searching for deposits of oil potential while managing the old wells more efficiently, exploiting and using fossil energy wisely through conservation and strict controls that can extend the life of fossil fuel reserves. "Equally important is developing more environmentally friendly and renewable biofuels immediately," he added.

He said the future of biofuels would be an alternative energy source with huge potential to be developed in Indonesia. Besides, the development of biofuels through the use of products of direct or converted combustion into biofuel not only provides alternative renewable energy alone, but also able to create new jobs. "In the near future, biofuels may not be able to fully replace fossil fuels, but will be a source of alternative energy potential," he said.

As an agricultural country, he said, Indonesia is potential to develop its own biofuel. The raw

materials for the manufacture of biofuels derived from plants are widely spread in Indonesia, such as sugar cane, maize, and cassava for bioethanol manufacture and palm oil, jatropha and coconut for biodiesel. "The production of energy crops is also likely to increase from year to year, so don’t worry about lack of vegetable sources of energy. For bioethanol, we have the potential of about 240 million liters of biodiesel per year and 2 million tons every year," he explained.

General Chairman of Indonesian plantation companies (GPPI), Soedjai Kartasasmita, said the increasing use of biofuels in developed countries boosts the growth of palm oil industry. He pointed out some developed countries such as the United States, Brazil and Australia use biofuels as a fuel or mixture fuel to fly the aircraft and warships.

Furthermore, Soedjai said, the growth of palm oil industry in Indonesia is very phenomenal. It has even put Indonesia as the world's number one producer with a production of 25.20 million tons in 2011 and is estimated at 27.25 million tons in 2012. "Unfortunately, despite being the flagship product of exports, CPO is not considered to be an environmentally friendly green product," he explained.

As it is known, a number of European countries and the U.S boycott to import Indonesian palm oil. They claim many Indonesian palm oil industries contribute to CO2 emissions from peat and urea.

Dr. Agus Kuncaka, DEA, a faculty member of Department of Chemistry UGM mentioned to overcome the problem of the effects of the palm oil industry on the environment can be done by using fertilizers that do not contain urea. Fertilization system with urea with ammonia and nitrogen oxide emissions from this chain contributed more than 50 percent of global warming. "Fertilizing can be done by using SROP (paramagnetic Organic Slow Release Fertiliser) which is able to reorganize the structure of the soil and sequester carbon," he said, adding that Srop fertilizer is composed of biochar (charcoal from agricultural waste).

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