

How to use biofuel energy as an alternative

Chihiro KUWABARA (Maizuru National College of Technology)

Today, people talk about the energy issue. There are two sides to this challenge. Firstly, there is a limit to how much non-renewable energy we can use. Humans cannot dig more fossil fuels, like oil, coal, and natural gas. They took a long time to form under the earth. In the not too distant future they will run out. Another problem is what happens to the environment. Humans burn fossil fuels and this increases the amount of harmful substances released into the atmosphere. Carbon dioxide, what we call CO₂ is a typical gas thought to cause the greenhouse effect. Exhaust from the burning of fossil fuels kills humans and animals in the future.

Recently, people have been discussing the use of biofuel as an alternative to conventional energy sources. It is an alcoholic fuel which was made from plants. Plants are easy to grow on farms, and are a renewable source of energy. After they are harvested, people can plant new crops in the same areas again. And it is said that biofuel does not discharge new CO₂. The plants absorb CO₂ from photosynthesis; the total amount of CO₂ in the atmosphere is not changed. So, biofuel technology looks very promising.

However, changing from conventional fossil fuels to biofuel has some serious problems. The biggest concern is the use of agricultural land. More land for growing biofuel seems to leave less land for growing food crops. Although the plants do not want as much time as fossil fuels, they need large arable lands. Arable land otherwise used to grow vegetables and crops for people and animal consumption must be planted to use for biofuel. Many argue that it will cause food shortages all over the world, raising the global prices consumers must pay to eat. The government around the world will have to choose either the amount of energy or the amount of food.

Some people also doubt whether biofuel will work as a viable alternative to conventional fuels. For example Brazil, the government of Brazil has maintained an active policy to use biofuel for many years. It is fit for Brazil because Brazil is well suited for sugarcane growing. The sugarcane is most actual material for biofuel refinement. Brazil is one of major countries now using it. However in recent years, other countries have also needed and wanted a share of the Brazilian sugarcane crop to be used for the biofuel. They are demanding Brazil export sugarcane in quantity. Therefore, Brazil may not have enough sugarcane in the future. The government of Brazil has decided to suppress the using of their sugarcane. And that is unfortunate considering that no country can produce sugarcane more efficiently than Brazil. Biofuel energy may remain "dream" energy.

However, I am wondering if it is really intelligent to only depend on one type of energy. The energy problem has been caused by using just several resources. Should we not learn to diversify? If the biofuel plan works, we will face the same problems again someday. The biofuel energy may be a little easier to realize than other new energies like solar, wind and methane hydrates. But it is only an escape from the true solution of the problems. We must, MUST try to realize various new energies without using only

one of them. Of course, there are many problems for all types of the energy; however the faults of each should be covered by the advantages of another. I think that it is just effective way of using biofuel.