

## **Need for Biofuel**

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As a result of conflicts with foreign nations that our country has depended upon for our oil, the use and production of biofuel has become an interest as a possible resolution for our nation's fuel crisis. Biofuel is "a gaseous, liquid, or solid substance of biological origin used as fuels" ("Biofuel," 2002). Biofuel has actually been around for a while. The first experimentation of it was around the mid-1800s, but it wasn't until around 1893 before it was demonstrated in an engine of any kind. It is derived from renewable resources such as plants, animal fats, and a byproduct of pulp and paper industry called tall oil. Biofuel can even be manufactured from wasted cooked oils. Another name it is also referred to as is biodiesel. Biofuel and its development can play a significant part in our society and have a direct impact on our cost of fuel and our dependency to other countries for it. It is nice to know that resources that we have in this country can be used to a degree for such a significant cause. As we have begun to further explore the use of biofuels, there have been several discoveries. Although there are definite advantages of the use of biofuel, there are also some disadvantages to use and implementation of this alternative form of fuel. Biofuel is definitely worth the effort, though, that it takes to properly develop ("What is Biofuel?" n.d.).

The use of biofuel is basically an alternative route from what we have already been using for some fuels and oils. Biofuels also promote a cleaner environment when used because they are biodegradable and non-toxic. Due to the "impact of greenhouse gas emissions" (What is biofuel?," n.d.), one of the most common uses of biofuel is associated with the replacement of the fuel we use in transportation to power vehicles. One of the latest issues that do not involve ground transportation is the military's anxiousness to move forward with the switch to biofuels to help power warplanes. The military has a desire to decrease its reliance on oil with

the purchase of biofuel. If all goes as planned, by the end of 2012, this should be in effect. This is a major development and speaks volumes for the potential of biofuels (“US Air Force: We want to Use Biofuels,” 2011).

Another advantage of biofuel is that it can be used for energy production and is already being used to generate electricity with back-up generator systems using 100% biodiesel. Such generators result in less operating smoke than diesel generators. The biofuel used for energy production in generators can help contribute to a large reduction in emissions in places where it is needed and really matters. To name a few would be hospitals, schools and other facilities located in residential areas (Cornell, n.d.).

The biofuel wave will help with the alleviation of global warming by reducing the green house emissions among other advantages concerning biofuel production and use. Some of the properties in the air are cancer causing and biofuel, when added to petroleum, allows it to burn more efficiently. Because of the mild solvent properties of biodiesel, it is considered “clean fuel” (“Benefits of Biodiesel,” n.d.), and this factor helps to reduce the emissions of particles and unburned hydrocarbons in the air. Biofuel usage could have a quality impact on public transportation and the trucking industry without a significant delay to implement. The production of biofuel is not overly expensive with the use of oils from plants grown naturally, frying oils that have been recycled and animal waste products, all of which contribute to fewer green house gas emissions unlike that of petroleum diesel. The expense it takes to grow crops is less than what we as a country put out for oil from other countries. Instead of animal waste products being thrown in a landfill, decomposing and negatively affecting the climate, these products can be used in the production of biofuel (“Benefits of Biodiesel,” n.d.).

Some may argue that the disadvantages outweigh the advantages. Among these disadvantages include the fact that most of our vehicles are made to only run petroleum fuels. Because of this, it would take a vast amount of research and time to convert this feature or the design of some form of adaption to work properly to allow vehicles to be able to use biodiesel. Another disadvantage involves the public. Even though public transportation fueled by biodiesel has a positive effect on the greenhouse emissions by reducing it, people may not be ready to give up the flexibility, convenience and luxury that are attached with the use of their own cars. It would take a huge effort and some time to educate the public on why the use of biofuels would be an advantage over petroleum fuel, which is harmful to the atmosphere, convincing them to use public transportation. Some also feel that there would be a problem with supply and demand. There is a fear that farmers may direct their attention more toward growing crops for biofuel production versus for food consumption, and this, in turn, would raise our food costs. Another disadvantage that concerns environmentalists is the concern that as more and more land is used for crops for the production of biofuels, then habitats are lost for various animals and plants (“Drawbacks of Biodiesel,” n.d.).

In conclusion, it is clear that this country certainly seems to be too dependent on others for our current source of fuel. The change we have experienced with the elevation of gas prices over the years is an example of our vulnerability of not having enough of our own resources to depend on. Instead of continuing to depend on other countries for fuel sources when we don't have to puts us in a greater position for a downfall. Because biofuel is produced from renewable resources, it is something readily available, cost effective and friendly to our environment. Like anything where change takes place, there will be an adjustment or some

hurdles; however, the use of biofuels is worth the challenge to reduce our dependency on oil from other nations and to contribute to “saving the world one drop at a time” (“Conclusion,” n.d.)!

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