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Advantages and Disadvantages of Biofuels

Biofuels are transportation fuels produced from biomass as a substitute for fossil based fuels. Let us see the main commercialized or developing biofuels production pathways. Biofuels can be produced from a variety of technologies pathways which are often separated into “generations”.

First generation biofuels technologies are in commercial production and are from sugar, starch, animal fats and vegetable oil. There are such types, like: biodiesel and renewable diesel, ethanol and biomethane. Biochemical second generation biofuel production involves pre-treatment to separate out the biomass into lignin, cellulose and hemicellulose to produce ethanol, methanol, butanol and other biofuels.

Third generation biofuel technologies include hydrogen production from biomass and algae production for biofuels.

Many of the energy crops and biofuels are better for the environment than fossil fuels. Farmers can plant energy crops almost anywhere in the world. In addition, biofuels create less smog and other irritants, impacting the health of people in a positive way.

Biodiesel has several key advantages:

1. Biodiesel is environmentally friendly.
2. It can help reduce dependency on foreign oil.
3. It helps to lubricate the engine itself, decreasing engine wear.
4. It can be used in almost any diesel with little or no engine modification.
5. It is safer than conventional diesel.

There are some disadvantages of using biofuels:

1. Increase in nitrogen oxides in biodiesel emissions.
2. Decrease in fuel economy and power. It means it takes 1.1 gallons of biodiesel to equal 1 gallon of Standard diesel.
3. Cost is a bit bigger then Standard.
4. We can see fields full of crops like soybean, that is grown for biodiesel manufacture, but on the gasoline stations it’s not really available.
5. Poor Oxidation. Biodiesel fuel gets thicker as temperatures drop meaning it can clog tubes and filters easily. Microbes can also grow in the fuel which will cause other problems. Keeping the oil warm is crucial in its proper use.

Biofuels burn clearer then fossil fuels. They don’t produce sulfur or aromatics, so there’s no unpleasant smell associated with burning biofuels. One day the world will run out of fossil fuels, and with it, our main sources of energy will go up in smoke. But biofuels are different. They’re made from plants that can grow and be replanted again and again.