Kaileine Dimmick

Biofuels

Biofuel is a natural alternative to fossil fuels which is created from biological material. These biological materials include; sugars, starches, oils, and animal fats which are converted into a fuel. A specified type of biofuel, biomass, is created from wood and other plant and animal matter. A fuel must be at least 80% renewable to be considered a biofuel. This is just one of the advantages of biofuels.

A major advantage of biofuel is its renewability. While there is a limited amount of fossil fuels, plants are plentiful and easily regrown. Another advantage of biofuel is its carbon neutrality, meaning that the carbon produced from burning the biofuel is offset by the carbon consumed by the plants of which the fuel comes from. One disadvantage of biofuel is that the machinery used to farm them produces a lot of carbon emission. Another major disadvantage of biofuel is being as it is made of plants, land must be subsidized from farms in order to grow the plants which will become fuel. This is seen as a problem to many, as food is scarce in some regions and is more widely needed then a renewable fuel is. Despite these disadvantages, biofuel is much better for the environment then fossil fuels and are much easier to access.

Fossil fuels must be extracted from the ground in non-ecofriendly ways. Biofuels on the other hand can be made using certain bacteria. Certain bacteria is able to anaerobically break down plant biomass to release sugars which ferment to create biofuel. This biomass is treated with strong acids at high temperatures to begin the breakdown. one bacteria responsible for the breakdown of biomass is a thermoacidophile, which lives in acidic environments at high temperature, called caldicellulosiruptor bescii. This bacterium breaks down biomass quickly and efficiently without extreme carbon emission, which makes it a great alternative for fossil fuels.