Fossil Fuel And Greenhouse Gases: Solution Paper

Today, the world runs both literally and figuratively on fossil fuels. People depend on fossil fuels for personal transportation, lighting and heating their homes, the conveyance of their foods, the machinery that helps grow food, erect buildings, mine for important minerals, and the products that allow consumerism to thrive. However, the combustion of fossil fuels has led to an increase in carbon dioxide, along with other greenhouse gases, such as nitrous oxides, sulfur dioxide, and methane. While greenhouse gases exist naturally and help to keep the earth at a liveable temperature, human activities where fossil fuels are burned have caused greenhouse gas amounts to increase at unnatural rates. Within the last 150 years, the amount of carbon dioxide in the atmosphere has increased from 280 parts per million to 400 million parts per million ("A Blanket around Earth"). With the increase in greenhouse gases, the earth is facing potential consequences with a change in temperature and precipitation, increased intensity of storms and sea levels melting from ice caps, and the movement of people and animals when dealing with these effects. While this future may seem bleak, the effects of climate change due to the burning of fossil fuels can be lessened if action is taken now. One possible mediation for climate change due to the burning of fossil fuels is the replacement of fossil fuels with biofuels.

Biofuels are fuels derived directly from composed from biological material which can take a variety of forms including corn, algae, wood, sugarcane, and grasses. Using cleaner fuels, such as biofuels, helps reduce emissions by 80% in comparison to gasoline ("Car Emissions and Global Warming"). Additionally, biofuels can be used as a fuel source directly in cars, meaning that car owners will not have to spend a large quantity of money to upgrade their cars or car systems which makes this a more feasible solution, as it does not require a large sacrifice by consumers. Additionally, biofuels are considered renewable because they are made from biological matter, whether as foliage or wood, which can regenerate at a rate where it can seemingly last forever whereas fossil fuels can take millions of years to generate and once they are depleted, they will not be available for those millions of years. This is not to say that biofuels do not have their own drawbacks such as the transportation of these fuels and the land and resources necessary to grow some biofuels such as sugarcane and corn. Biofuels, however, can be put into two categories: first generation and second generation.

First-generation biofuels include crops such as sugar, corn, and vegetable oil, but these fuel sources are less sustainable because they would compete with the production of food and impact land use.

Second generation fuels includes algae, methanol made from inedible plant matter, and cellulosic ethanol made from the wood, grass, and the inedible parts of plants, on the other hand, are seen as green because they have less impact on biodiversity, on food sources, and water use ("Types of Biofuels"). Large oil and gasoline companies are powerful and have large sums of money which have allowed them to stay in their spot as the primary provider of fuels. If there was a change in policies, such as a pollution tax, this could cause fossil fuels to be more expensive which could allow biofuels to be a larger provider in fuels.

Additionally, the focus of biofuels should be switched to have second-generation biofuels become more commonplace as a fuel source since it is a more renewable, greener way of

producing energy, along with not being competition with food crop which can cause food prices to increase and there to be a need to for the land and resources to grow those crops. Lastly, the increase in the production of second-generation biofuels could help create new jobs and lead to more technological advancements. The implementation of second-generation biofuels could begin by adding small amounts of the biofuel into gasoline, similar to how ethanol contains some ethanol and some gasoline. Over time, the concentration of fuel will add more and more second-generation biofuel until it is all biofuel and gasoline is no longer needed. By beginning to implement second-generation biofuels as a more primary fuel source, people would hopefully begin to wean off their dependence on fossil fuels and look toward a brighter, cleaner, and future.