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Green Crude

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Green Crude

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Natural gas, electric cars, oil shale, how do we feed are continuous need for a fuel source that will get us from place to place. There are lots of options but most of them cost so much that people don't even consider them. So is there a solution that will work with the infrastructure that we already have. Is there a solution that can give us an energy rich liquid fuel that works in the current oil refineries but somehow cuts foreign imports and reduces carbon emissions? For most people the first thought is ethanol, and I would agree, but high blends of ethanol don't work in all vehicles and still require us to build new processing plants. The product that I am referring to is called green crude.

Green crude is a renewable form of crude oil, currently being worked with by Sapphire Energy with help from the department of energy and the department of agriculture, that is made using algae, CO₂ and sunlight. The way that it works is the algae is grown then basically condensed into a product that can literally be "dropped in" to the existing industrial refining process. First and second generations biofuels, such as ethanol and bio-diesel aren't completely compatible with are petroleum infrastructure, but green crude is. A barrel of green crude can provide the same products as a barrel of regular crude, without the negative side. Because the algae use CO₂ to grow, the process is completely carbon neutral. Although this technology is fairly new and for this reason the production hasn't reached a point that it can be considered as a full replacement for crude oil, however there is a facility in Columbus New Mexico that at full operation will be able to produce around 100 barrels of green crude per day.

So what are the economic advantages of green crude? One huge advantage is one I have already touched on. The infrastructure already exists. We already have the refineries, the distribution system, and the vehicles that we need to utilize this product. Another reason that makes an economic difference is the resource use. Unlike other biofuels, the crops for green crude (algae) can be grown in the desert using salt water. The salt water aquifers in the desert provide perfect water to supply the man-made algae ponds, and since they are placed in deserts to maximize sunlight they aren't taking up any land that could be used for other crops. Another thing is that with this product the money that we spend stays in the United States instead of transferring our wealth overseas in exchange for oil.

So what are the economic policies that could help to make this work? Green crude is a direct substitute for regular crude oil, because of this there are more options that could be used. Any policies that have a negative effect on the price of oil will help green crude use to be more competitive. This

could be several things, such as accounting for the true cost of carbon (carbon tax), decreasing imports of crude oil, or a shortage of supply. The issue could also be taken from the other side. The policies could be used to directly affect the cost of producing fuels with green crude. This could be an approach such as a subsidy or tax credit to help refiners offset the slightly higher price of green crude compared with regular crude.