Animal Fat to Become Synthetic Fuel
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Energy & Nonviolence

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The world's largest producer of meat is gearing up to make "Synfuel"

In the past few years, liquid biofuels have risen from obscurity to prominance as alternative energy sources. Most people are familiar with ethanol made from corn or sugarcane, or biodiesel from soy or palm oil. On a smaller scale, companies are making biodiesel from restaurant waste vegetable oils. This fuel source bypasses the issue of growing fuel crops on land that could be used to grow food, so is generally seen as a good thing. However, unknown to most, plans are underway to utilize waste fat from slaughterhouses and factory farms, the benefits of which are unclear to most and ethically offensive to some.

The statistics are grim. Each year in the United States alone some 8.8 billion animals are slaughtered for meat, nearly 30 animals for every man, woman and child. The vast majority are chickens. It is the low-grade fat from this industry that biofuel producers want to turn into a renewable biodiesel they are calling "synthetic diesel"or "Synfuel." Though the refining processes for animal fats and plant oils differ, the final fuels will all run diesel engines, and users won't know the source.

A new fuel plant being built by Dynamic Fuels (a joint venture between Tyson Foods and Syntroleum Corporation) could change the face of animal fat fuel production from a smattering of small local efforts to an international industry.

A new biofuel plant in Louisiana

In January Dynamic Fuels began construction of a large new biofuel production facility in Geismar, Louisiana, scheduled for completion in 2010. When fully operational, it is forecast to produce 75 million gallons of fuel per year. It is the first of more plants to come. The market need is prodigious. US consumption of diesel is 168 million gallons per day.

Costs for the plant are expected to run to $138 million. Approximately $100 million is being sourced in the form of tax-exempt Gulf Opportunity Bonds. The balance consists of equally proportioned cash commitments from Tyson Foods and Syntroleum. Like all biofuel production in the US, a combination of federal subsidies and biofuel mandates will enable it to compete with fossil fuels at current oil prices.

According to a press release at the start of construction, the Dynamic Fuels plant will "primarily use non-food-grade animal products produced and procured by Tyson Foods, such as beef tallow, pork lard, chicken fat and greases." The company notes that it has chosen these feedstocks because they are typically priced lower than vegetable oils and do not impact the human food supply.

The exact proportion of fats from different animals to be used in the feedstock (called "Tyson Fat Blend" in Dynamic Fuels' literature for investors) is likely to vary based upon availability. Tyson has indicated that it will glean these from "all available sources inside and outside Tyson," depending upon where the lowest priced fats can be obtained.

Based on statements regarding requirements by Jeff Webster--Group Vice President of Tyson Foods' Renewable Products Group--if the Geismar facility used only chicken fat, for example, approximately 575 million pounds of fat would be needed to meet its quota of 75 million gallons of fuel per year. This is about one quarter of Tyson Foods' total annual chicken fat production.

Unlike plant-sourced biodiesel, Synfuel, expected to come online in 2010, will be mixable with the ordinary fuel supply for distribution. At the time of this writing, a Syntroleum spokesman, Ron Stinebaugh, said that they were currently looking at various distributors for this fuel, but had not made a final decision on the matter.

Synfuel also meets the high standards required for jet engines. In an interview about a year ago with the green technology blog Cleantech, Webster indicated that the proximity to Barksdale Air Force Base and its three squadrons of B-52 bombers (the first Air Force jet certified to fly on synthetic fuel) was among the factors

influencing building in Geismar.

William Anderson, an assistant Air Force secretary told Environmental Leader that the Air Force hopes its entire fleet will be able to fly on a 50-50 mix of domestically produced synthetic and petroleum-based fuels. Considering that in 2006 the Air Force spent more than $5.7 billion on some 2.6 billion gallons of aviation fuel, there is great financial incentive for any company to find a way to supply even part of that demand. Syntroleum delivered 500 gallons of "renewable" Synfuel for testing in Air Force jets in late 2008.

The Dynamic Fuels partnership isn't the only avenue Tyson Foods Renewable Products Group is exploring. Tyson has also partnered with ConocoPhillips to investigate using a different chemical procedure for turning animal fats into a fuel that can also be mixed with conventional diesel. According to Tyson's publicity materials, this fuel will be targeted for distribution throughout the US as part of the normal on-road and farm diesel fuel supply.

The lesser of two evils?

Environmentalists are divided over fat fuels. Pragmatists hold that though factory farming is ecologically unsound, it is unlikely to be stopped soon. So why not use the tremendous volume of animal waste fat to create fuels that can substitute for petroleum-based fuels? This may not be ideal, but if it results in lower greenhouse gas emissions as well as decreased dependence on imported fuel, then it's not a bad use for a waste product. It is the lesser of two evils. Factory farming may be bad, but the effects of unchecked global warming will be even worse.

Opponents retort that though such fuels could offset a portion of petroleum-based fuel, the harm caused (both to the environment as a whole and the animals themselves) in producing them outweighs any benefit. Furthermore, as the global meat industry is currently responsible for more greenhouse gas emissions than the whole of the transport sector, any claims about animal-based biofuels being lower in carbon emissions are immediately suspect, if the entire life-cycle of the fuel is taken into account.

The consumer won't know

From the perspective of the consumer, the first question that arises is how will one know if the fuel being pumped into their vehicle is made from animal products?

At this stage Dynamic Fuels' Synfuel seems targeted for the military and not commercial airlines, so your passenger jet will not likely be using it. But since the synthetic diesel produced in Geismar can be mixed with conventional diesel, you could soon be using animal-based fuel in your diesel car or truck without even knowing it.

Tyson touts it as a genuine advantage over normal biodiesel that consumers will be unable to tell the difference between its diesel fuels and those made with petroleum. However, for thoughtful people who oppose factory farming on ethical or environmental grounds this ambiguity creates a serious problem of accountability that is not easily resolved.

Voices from Hindus, a Vegan and the Vedas

Vijai Singhal, Secretary, Hindu Council of Australia: Using animal fats as biofuel is simply preposterous. Animal farming is one of the largest polluters of the environment. The number of land animals killed for food worldwide in 2006 was a mind-boggling 56 billion. That does not include fish and other marine animals. Livestock grazing and animal feed crops account for 70% of all agricultural land and 30% of the land surface of the planet. Reduction of meat consumption is the most economical and direct method of tackling the climate change problem. Cruel and useless exploitation of animals merely for the gratification of human appetite is what Hindu morality stands against.

Abhinav Dwivedi: The whole environmental debate needs a paradigm shift to gain momentum. If ethics can dominate economics, then these issues will be viewed differently. People will ask questions: Why do we have these by-products? What is the existential necessity of raising and slaughtering animals in huge quantities for human consumption?

Matt Prescott, Director of Corporate Affairs for PETA: A recent report published by the United Nations concludes that the meat industry is responsible for more global warming emissions than all the cars, trucks and planes in the world combined.

Clearly, the answer to global warming isn't to fill gas guzzling cars with ground up remains of tortured animals. It is to go vegetarian, which is something every person can afford to do and should do for the sake of their own health, animals and the environment.

Venkatakrishna Sastry: This is an issue for all Hindus. It touches on the key principle of dharma, ahimsa (nonviolence), on the positive side, and fighting lobha (market greed) on the other. The same logic used for sattvic, non-animal derived products such as soap, cooking oil, cosmetics, etc., holds good for bio-fuels derived from animal fats.

Panshula Ganeshan: Buying a product is a form of voting. Knowingly buying a biofuel that has been derived wholly or in part from slaughtered animals is to vote yes to a hurtful chain of events, of raising and slaughtering animals in huge quantities for human consumption.

Yajur Veda 12.32.90: You must not use your God-given body for killing God's creatures, whether they are human, animal or whatever.