

Petroleum Displacement

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Yasser Arafat died last week.

And none of the experts on the Middle East can agree on whether this is a good thing, or a bad thing for world peace. And this strikes me as odd. Surely everyone on earth can agree that peace in the Middle East is a good thing, but not everyone can agree on how to get there from here. And very few of us understand all of the factions and personalities involved.

I think the same is true when it comes to replacing petroleum.

Some of the experts say that world oil supplies have peaked and that we had better come up with some alternatives if we are to sustain our standard of living. Some people think that our standard of living is unsustainable and needs to be abandoned outright. Some people, like Virginia's own Bill McDonough, think sustainability is too lame a word and that we need to seek growth, or "fecundity" in our ideas to solve the earth's environmental problems.

Let's do this. Let's start by agreeing that reducing our dependence on petroleum is a good thing. Let's walk more. Let's buy hybrids. Let's carpool. Let's make fewer trips. And let's switch to biodiesel.

Biodiesel attracts people for a whole bunch of reasons. Some come to it because it is renewable.

Some like it for its emissions. Some like it because it can be made in America. Some are drawn to biodiesel so they can avoid taxes. Some so they can be "off grid." And some are drawn to it because they can avail themselves of subsidies and tax credits. Some even come to biodiesel for profit. And some really do come to biodiesel in the name of world peace, because they feel there is no war required to get the stuff.

Let's admit it. That's a group of factions. And in biodiesel, those factions can be far, far away from one another as they all work toward the same goal of displacing petroleum.

The guy who brews his own in the backyard, may not see eye to eye with a corporation which is a member of the National Biodiesel Board. The people who are making funding decisions, like the poor people at Clean Cities, may not share the agenda of the B100 consumer fanatics.

I love Clean Cities. And at the same time, I pity them. Because they are forced to know a little about a lot when it comes to finding replacement strategies for petroleum. At the same time that they are staging a biodiesel conference at James Madison University, they are having to cope with compressed natural gas and propane and ethanol and blends and fanatics, and all of the agendas that go with each. On top of that impossible job, they are funded by an administration that does not believe in global warming and forces them to dip their toe into hydrogen.

Our current administration, passed some generous tax credits for petroleum blenders who include biodiesel during their last term in office. Now they are promising more domestic drilling with their new

mandate. More domestic drilling is not about replacing petroleum, so let's just say they don't quite get it yet.

Can we agree that we need to replace petroleum? It's pollution affects the health of our children. And when our air is polluted, we can't build more smokestacks, and when we can't build more smokestacks, we cannot sustain our economic development. Therefore we have to clean up our air quality. If we want to build more smokestacks, by golly, we better reduce the emissions coming out of our exhaust pipes, which is why government fleets, and coal burning electric utilities tend to be the early adopters of biodiesel.

By the way, we need to give the Government of Harrisonburg some kudos for integrating B20 into their mix. I understand they are burning around 40 thousand gallons a month, which if I have the math right equates to 8,000 gallons of displaced petroleum. Way to go, Harrisonburg.

Biodiesel fits nicely into our current economic model. Growing the feedstocks can help our farmers. I don't know if your farmers are in the same boat as the ones in North Carolina, but are the farmers in the Shenandoah Valley looking for new cash crops? Manufacturing the stuff creates local jobs. And burning it puts less pollution into the air, which leaves us free to pollute somewhere else. When you add the fact that you don't need fighter jets to escort soy beans from Iowa to Virginia, the positive impact of biodiesel looks very good indeed.

Today there is zero commercial biodiesel production in North Carolina. You guys at least have Doug Faulkner's outfit, Virginia Biodiesel, which I understand is on it's way to a million gallon capacity. Think about the implications of that for a moment. Every dollar you spend on products made in Virginia re-circulates through your economy over and over before it leaves town. Where would you rather send your fuel dollars? Texas, Louisiana, Saudi Arabia, or West Point Virginia?

It is easy to agree that we want the economic benefits of biodiesel, and it is easy to agree on the need to take out petroleum, but we can't all agree on how to get the job done. Let me give you a concrete example of some factional thinking that I have encountered in North Carolina.

One group that I am a part of wants to capture all the used vegetable oil from the State Fair, ship it seventy five miles down the road to an underutilized chemical plant, spin it into biodiesel, and truck the finished product off to the many thirsty customers of biodiesel we have in our state.

Another group that I am a part of, wants to buy finished biodiesel from a plant in Florida, put it on a little tank truck, and drive it around to customers who have small tanks at their homes and businesses. Basically developing a little biodiesel route.

The first group refers to the second group's idea as being "expensive imported fuel." The second group refers to the first group's idea as being "too whacky to comprehend."

And yet both groups have at their heart the idea of petroleum replacement. Both ideas have merit. Both groups are limited only by their ability to execute their ideas, and yet you should see the

tensions mount between the two. If we had only BTUs to deal with, instead of people and personalities, we would be set.

Maybe Yasser Arafat was a terrorist. Or maybe he was a freedom fighter. Perhaps he was a murderer. Or maybe he was a leader of a displaced people. Get a group of experts together on the radio and they will not be able to agree on what he was.

I'm hoping that petroleum replacement is not as elusive as world peace. It should be easier than that. Surely all the factions of biodiesel should be able to get along.

Those who run on straight vegetable oil might stop looking down their noses at the backyard brewers. And those who brew their own might stop looking down their noses at those who run around on "expensive" store bought biodiesel. Large commercial producers of biodiesel could stop looking down their noses at the small biodiesel coops. Those on B100 could be more welcoming of those who are trying blends (including me). After all, all of them are engaged in petroleum replacement.

Biodiesel in Virginia is going to take many forms, There will be non-profits who do "benefits for biodiesel," and there will be student groups who agitate to get biodiesel blends into campus buses. I understand James Madison already has a "Fuel Diversification Program" in place, and although I don't know the numbers, you know that someone around here is onto the idea of replacing petroleum. There will be corporations with proprietary methods of making biodiesel, and there will be those that give tours and share their information freely. And let's not forget those who are in the backyard right now. Because there are those who will meet their fuel needs without any grants, without any college courses, and without attending any conferences such as this. There will be those who hide their endeavors from the authorities, and there will be those who run around making speeches about their work.

Let me do that for a minute. I am with Piedmont Biofuels, a small coop that arose from the biofuels program at Central Carolina Community College in Pittsboro. I was making fuel for my tractor, and I showed up at our local college for their first ever course on how to power vehicles from vegetable oil. Rachel, who was co-teaching the class is an auto mechanic who gave me the courage to get a diesel vehicle. And Leif, who was teaching the class with her, had designed and built a biodiesel reactor in his past life. After the class ended, we stuck together and kept on making biodiesel.

Today Piedmont Biofuels is known for small scale reactor design build. Our current production reactor turns out eighty gallons at a time, and we just finished a self contained mobile biodiesel reactor on a trailer that was funded by our State Energy Office. We intend to tote it around the state to help us spread the word about biodiesel.

Today Piedmont Biofuels has a complete biodiesel operation where worker members of our coop come and make fuel for their own vehicles. We easily turn out a couple hundred gallons of fuel a week made from waste vegetable oil that comes in from local restaurants.

As we enter our third winter together, we have become a research farm that is registered with the USDA. In the front field there is a significant composting operation, where we produce certified organic compost from the glycerin which comes off our biodiesel manufacturing process. Also in the field is a series of oil seed beds where Dr. Otee is conducting “gallons per acre” experiments in mustard, sunflower and oilseed radish. He has also introduced both meat and dairy goats to the operation and is currently conducting research in glycerin as animal feed. Rachel threw her flock of chickens into the mix, which come and go as they please, which means it is not unusual to be sitting in what was an abandoned trailer-- the Piedmont Biofuels Executive Suite, and to be interrupted by either an escaped goat, or a chicken passing through the plant. The biofuels program down at Central Carolina Community College has moved from being classified as “Continuing Education” into curriculum and is now sixteen weeks long. An “Advanced Biofuels” course has been added that explores a wide range of renewable energy sources, and a diesel technology class is scheduled for next semester. Right now we are in talks with the bio-processing school to assemble the necessary gear to do proper biodiesel analytics and to work a quality control program into the mix. The college is also exploring a “Feedstocks and Sidestreams” class as part of their Sustainable Agriculture program.

And did I mention our tank truck? We have rehabilitated an old home heating delivery truck that allows us to tote sixteen hundred gallons of store bought B100 around to customers throughout our region. We are currently distributing tanks to the yards and businesses of coop members. Once you are smitten with the advantages of biodiesel, the first question is “Where can I get some?” Let’s face it, the answer “You got to make it yourself” leaves a lot of people out, so we are attempting to come up with a better answer than that. Last week Chad mentioned that he was interested in forming a B100 buyers coop in Charlotteville, which would be an attempt to answer the same question. We do a lot of things at Piedmont Biofuels, and I’m not sure the gallons of displaced petroleum from our project could be easily calculated. I know I haven’t been to a gas station for fuel since last January, and I know that since we started making our own, my personal mileage has dropped—there is nothing quite like running on homemade to make you reconsider that extra trip!

I’d like to think that everyone in biodiesel, on one level or another, is working hard at petroleum replacement, and that is a good thing for our communities. It’s good for our air quality. It’s good for our farmers. It’s good for our economy and should be a damn sight easier than achieving world peace.