

## **Get on the Bus: Cascading Systems Failure, Biodiesel and why the value-added proposition is in activism, not making fuel.**

Rates of global change are accelerating. Small-scale biodiesel is highly vulnerable to political whim and erratic economic conditions. Feedstock procurement has become more intractable and increasingly controlled by the wealthy elite. Without a price on carbon and other pollutants, the socio-economic system of capitalism is continuing to “pour fuel on the fire” of runaway climate disruption and socio-economic dislocation and disparity of income. Finally, human behavior is irrational, as well documented by behavioral economists, with few “willing to pay” for clean fuel at anywhere close to the price needed to survive the removal of subsidy from the economic model. Even very smart and passionate people will choose to “go green” only when they are on parity with the “dirty,” unable to follow the causal cost connection to the benefits additional multiplier effects associated with locally produced, clean energy.

From our experience at Carolina Biodiesel building a small plant in an old Brownfield fuel terminal in east Durham, investing a couple of hundred thousand dollars in a 100K annual production plant, an appropriate size for small-scale, distributed and local energy production, seems risky proposition at this point. Given the on and off again blenders tax credit and Rins oscillating like Temperature and CO<sub>2</sub> over the last 100K years (prior to the Holocene), environmental entrepreneurs may be better off investing their energy and resources in the value-added use of biodiesel in the form of green transportation. It is our experience that a local transportation system is a much more gratifying means of making a difference in the human created and exacerbated “end of times.”

A strong, high paying internal demand market for biodiesel is a preferred place to begin when building of a “waste-to-fuel-to-transportation” model. Growing the WVO collection and processing, selling the processed/value added oil to larger producers or to the highest bidder and using the funds to buy fuel from the best price provider in tanker loads, redistributing the fuel and value adding in a fleet of buses is a much smarter way to go. Delaying fuel production until positive cash flow and debt has been paid down and there plenty of money in the bank to “go long” and survive the throes of price fluctuations just makes much more sense.

A good quality tour bus can be purchased for \$40K and transits for a lot less and a fleet of 5 buses in a year or so can generate a gross of \$300K easily with a margin of 20%. Also, buses serve as mobile classrooms, billboards and ideal messaging systems as well as excellent means to “close the loop” on local, sustainable energy production, literally delivering party buses back to the very restaurants that offer the WVO for collection and use. Though at times challenging, The Forest Foundation has slowly built a hybrid business model at the GOAL Site, including a green jobs training and business incubator in the middle of a Hope VI Community and created a fairly strong collaboration of green businesses and environmental justice advocates and supporters

But running a bus fleet is not without its issues: maintenance, liability insurance, FMCSA paper work, training, communications and operations management are stressful. Simply finding the money to capitalize the business has been a challenge, when banks aren't lending and investors are risk averse. However, buses is they are tangible capital. Greenway Transit used a local, Slow Money, peer-to-peer lending system to grow the business, using the bus title as collateral until loans with interest were paid off. The sheer joy of the customers and functional moving and engaging large numbers of community members is well worth the effort.

In addition, buses have been central to building coalition and social movements in America, and a part of the societal transformations global of increased lower and middle class mobility. Hands down they are a plug and play way of improving air quality and community development through public transportation, providing leadership to fleet managers worldwide that going green can happen. Greenway runs B100 in 5 major engine platforms with models ranging from 1994 to 2003 with no problems except slightly increased fuel filter changes and occasional fuel line replacements. In the winter we blend to B80. Given the bang for the buck, it's a winning business proposition, coupled with side stream incomes of WVO collection and biodiesel distribution.

In conjunction, green entrepreneurs and activists should push to build coalition to mandate that local governments take control of the waste veggie oil waste stream, like their current control over sewer, solid waste, construction debris, etc. and using a bidding process, trade that feedstock to a local producer to make fuel for the local school bus fleet system in blended form. Biodiesel in school buses is the best possible use of the limited

feedstock as a matter of public policy. Exposure to children from air emissions from the burning of dirty diesel is a leading source of exposure to respiratory systems that are highly sensitive and easily affected by pollution. In the short term, given the limited supply of feedstock until generation two feedstocks are available on a larger scale, this is the best possible use.

Buses are central to building movement and broadening the coalition that can be used to shift the political and socio-economic paradigm needed to save the planet. The GOAL Model can lend to local community resiliency and longer-term sustainability. This waste to fuel to transportation model can be replicated at an appropriate scale with relative ease in every medium size college town in America. Feel free to contact us if you want help. We can save you a lot of hard ache and money, and allow you to really subvert the dominant paradigm.