

ATTACHMENT A

**A RESOLUTION ACCEPTING THE ENVIRONMENTAL ADVISORY BOARD
RECOMMENDATION ON BIODIESEL IN THE TOWN OF CARRBORO
Resolution No. 13/2004-05**

WHEREAS, the Carrboro Board of Aldermen seeks to ensure that its existing and proposed policies and regulations are conducive to employing alternative fuel options and overall increased energy efficiency; and

WHEREAS, the Environmental Advisory Board is charged with advising the Board of Aldermen on policies, ordinances, and administrative procedures regarding environmental protection and the conservation of natural resources, including energy conservation,

NOW, THEREFORE BE IT RESOLVED by the Carrboro Board of Aldermen that the Aldermen accept this recommendation and direct staff to evaluate the report.

This is the 7th day of September in the year 2004.

TOWN OF CARRBORO
ENVIRONMENTAL ADVISORY BOARD

Meeting on September 2, 2004
Carrboro Century Center
Carrboro, North Carolina

RECOMMENDATION

Collaboration with Carolina Biodiesel

Since Carrboro is now part of a "non-attainment" region for pollution as designated by the EPA and thereby needs to reduce the amount of pollution it contributes to the town and the region, and since the town has repeatedly proclaimed its commitment to supporting local, sustainably manufactured produce and goods as a founding member of the Triangle Clean Cities Coalition and as the first local municipality to test biodiesel in town cars, the Carrboro EAB advocates cooperation with efforts to establish a local yellow grease biodiesel producer. We recommend that the town:

1. Request town manager to submit a letter to the health department in support of a survey of local restaurants that Carolina Biodiesel is authoring that would ascertain which area restaurants might supply yellow grease to a local biodiesel producer.
2. Examine the town of Carrboro's existing contract on biodiesel supply and think about either terminating that contract or modifying it so that local yellow grease biodiesel operations would have an opportunity to sell us their biodiesel
3. Explore the feasibility of a pilot project evaluating the cost and mechanical efficiency of running selected town vehicles on B100 vs. regular diesel and B20.
4. Request that Chapel Hill Transit explore the idea of converting some buses to biodiesel, again attempting to test B100 versus B20 and kerosene in terms of cost effectiveness, fuel efficiency, and emissions.

Motion was made by Kathy Buck, and seconded by Neil Flanagan

VOTE:

AYES (4; Buck, Flanagan, Taylor, White); NOES (0); ABSENT/EXCUSED (1; Myers)

Rickie White, Jr., Chair 2 September 2004

ATTACHMENT C

A regular meeting of the Carrboro Board of Aldermen was held on Tuesday, May 18, 2004 at 7:30 p.m. in the Town Hall Board Room.

Present and presiding:

Mayor	Michael Nelson
Aldermen	Joal Hall Broun
	Mark Chilton
	Jacquelyn Gist
	John Herrera
	Diana McDuffee
	Alex Zaffron

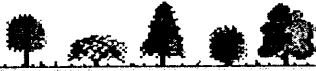
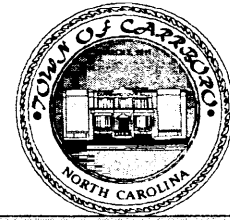
Town Manager	Steven E. Stewart
Town Attorney	Michael B. Brough
Deputy Town Clerk	Sharmin Mirman

REQUEST FROM CAROLINA BIODIESEL

Bo Lozoff, with The Human Kindness Foundation, addressed the Board on behalf of Carolina Biodiesel. The Mayor and Board of Aldermen are agreeable to building a relationship with them and it was suggested that Mr. Lozoff meet with staff (Town Manager, Public Works, Purchasing Officer) and make a presentation to the Environmental Advisory Board.

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TOWN OF CARRBORO ENVIRONMENTAL ADVISORY BOARD - MINUTES



Meeting on **3 JUN 2004** at 7:00 p.m.
Carrboro Century Center
Carrboro, North Carolina

Board Members		Guests	Staff
Present	Absent		
Kathy Buck		Bo Lozoff (15 min.)	Noah Ranells
Neal Flanagan (arr 7:10 PM)		Joe Peters (15 min.):	
Sarah Myers			
Bob Taylor			
Rickie White			

Call to Order/Opening Comments. The meeting of the Environmental Advisory Board was called to order by chair, Rickie White at 7:00 pm.

Minutes

No minutes to approve.

Biodiesel

Rickie introduced Bo Lozoff, longtime Director of the Human Kindness Foundation (HKF) and more recently Carolina Biodiesel (CB). With Lozoff was Dr. Joe Peters, an Adjunct Professor of Natural Resource Management with Grand Valley State University, currently working in Hanoi, Vietnam. Peters is visiting Kindness House this week.

Lozoff indicated his desire to obtain EAB guidance on his efforts to promote yellow grease biodiesel production. He confirmed that EAB members received the material he sent in advance via email. The Human Kindness Foundation has been working with prisoners and former prisoners for 30 years. A sequence of events, allowed the HKF to obtain a site that is suited for small scale biodiesel refining.

Producing biodiesel from yellow grease, a 100% post-consumer waste, incorporates the long-term job training goals of HKF with an environmentally friendly technology that builds local sustainability. As much as possible, CB wants to work in partnership with local governments.

Currently most biodiesel is made from soybean oil that originates from the Midwest. Vendors obtain their biodiesel from Aurora, NC and blend to a B20 (80% petrodiesel: 20% biodiesel) for local deliveries. This results in a product that is more expensive than regular diesel fuel. Because of this Chapel Hill Town Manager recently recommended eliminating the B20 program in town fleet vehicles to save \$34,000, but the Town Council did not approve the recommendation

Biodiesel production from soybeans is the least efficient way to make biodiesel, but the strong support of biodiesel incentives from the farm constituencies support the \$2 to \$3 per gallon production cost of soy diesel. Other crops such as rape, sunflower, cottonseed, and mustard seed can be up to 3 times efficient for biodiesel production. A more economical way to produce biodiesel may be possible using yellow grease from restaurant oil.

Lozoff indicated that the next phase of this project would be to gather data on yellow grease production and collection in the local area. He indicated that a survey would help provide facts to develop a plan. He is currently involved in planning a survey with collaboration from Diane Reid, Barry Jacobs, and Ron Holdaway. A main question is what the fee is for yellow grease removal from restaurants and cafeterias. He would like support from the town and county, which he hopes will lead to a high rate of return of surveys.

He also would like to partner with local government on educating the public about biodiesel and finally would like local governments to agree to purchase a fixed amount of B100 biodiesel, put in an extra tank for it and keep careful fuel use and mechanical records for several years so a good database can be established.

White inquired as to the current contracts for biodiesel. Myers indicated that her impression was that use of B100 required a modification to the vehicle. Lozoff responded that for vehicles manufactured before 1991 likely have pure rubber seals that may be degraded with B100. Vehicles manufactured after 1991 have seals made from phyton that is B100 safe.

Myers asked about the price difference between biodiesel and petro diesel. Lozoff responded that there is currently a \$0.15 to \$0.20 per gal. premium for biodiesel. Lozoff added that the business plan includes a tipping fee associated with the collection of yellow grease and the CB goal is to match or be cheaper than B20 and perhaps petro diesel.

Flanagan inquired about the emissions of particulates from combustion of biodiesel. Lozoff replied that there was a 47% reduction in particulates from B20 compared to petro diesel. NO_x production from biodiesel is an issue that CB is working on, but is certain that NO_x will be less than petro diesel.

Taylor asked about "shelf life" of B100. Lozoff indicated that there would be an additive to deal with NO_x issue and enhance shelf life. B100 is less stable than petro diesel. . Maximum storage is ~ 6 months due to risk of yeast with greater than 6 month storage.

Lozoff replied that Alex Hobbs of the NC Solar Center has provided expertise. It has been suggested that NC legislature provide funds for an ASTM lab at the NCSU Solar Center to allow for fuel testing. Emissions data has been exhaustively studied. There is improvement in all categories except for NO_x, where biodiesel produces the same or up to 3 to 5% more NO_x, depending on the engines. However, Lozoff added that B100 will not make ozone worse and can help reduce acid rain sulfate to zero.

White commented that this could be a concern. Lozoff commented that NO_x is only one constituent of the pollutants and this in itself doesn't mean it produces a greater ozone threat

Myers asked about the waste stream and waste products from biodiesel production. Yellow oil is filtered, potassium hydroxide (lye) and alcohol are added, and the mixture is centrifuged or heated to 120 degrees. Methanol and lye exchange for glycerin to produce methyl esters. The Methanol can be recovered and the lye is consumed by the reaction. There are some commercial uses for glycerin so there might be a market for what is produced. Some process technologies use a water wash 1 million gallon production of biodiesel would use 1,000 gallons of water daily and 1million pounds of glycerin per year. The wastewater has some salts, soaps, and hydroxides and similar to gray water from a house. The site will need to have on-site wastewater treatment and Hal House an expert in alternative wastewater treatment will be designing this component.

White extended his appreciation to Lozoff for the presentation on Carolina Biodiesel and Lozoff left the meeting.

White asked for some discussion on this topic. Buck suggested that the EAB write a letter of support to the Board of Aldermen indicating support of project. Taylor added emphasized the fact that this project does not put folks out of business or take money away from existing enterprises.

Buck asked how would individuals access biodiesel. White suggested that there might be an opportunity for an existing service station to apply for a revolving loan to put in necessary equipment to carry BD. White asked whether the Town of Carrboro has its own tank. Ranells indicated

that the Public Works Department has a B20 tank and a second tank may be needed to provide B100. Ranells added that there has been some concern over biodiesel cost in Town of Carrboro and offered that perhaps fewer vehicles could be on B20 to allow some pilot vehicles to go on B100 and not cause a budget problem. Buck noted that it was the cost of the fuel not the cost of the tank that is of concern.

Myers added that there would be positive environmental benefit for town by using a local waste stream and a local factory. The following is the draft of the recommendation the White will type up and distribute via email

Since Carrboro is now part of a "non-attainment" region for pollution as designated by the EPA and thereby needs to reduce the amount of pollution it contributes to the town and the region, and since the town has repeatedly proclaimed its commitment to supporting local, sustainably manufactured produce and goods, the Carrboro EAB advocates cooperation with Carolina Biodiesel. We recommend that the town:

1. Instruct staff to cooperate with and support a survey of local restaurants that Carolina Biodiesel is authoring so that they can find out which area restaurants might contribute yellow grease to their operation.
2. Examine the town of Carrboro's existing contract on biodiesel supply and think about either terminating that contract or modifying it so that Carolina Biodiesel would have an opportunity to sell us their biodiesel
3. Test some town vehicles to see whether they function sufficiently using pure B100 (100% biodiesel) rather than 100% diesel or B20 (80% diesel).
4. Request that Chapel Hill Transit explore the idea of converting some buses to biodiesel, again attempting to test B100 as the best, least polluting alternative.