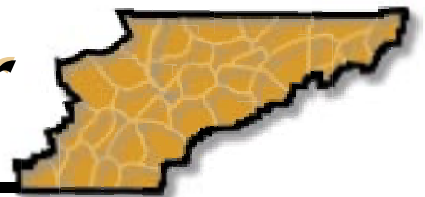


East Tennessee Clean Fuels Advisor



A quarterly publication of the East Tennessee Fuels Coalition

Bringing alternative fuels and hybrids to the forefront. Alt Fuels = biodiesel, electricity, ethanol, hydrogen, natural gas and propane.

The Smokies and Gatlinburg Take Big AFV Steps

The Great Smoky Mountains National Park and closeby neighbor City of Gatlinburg are both working on alternative fuel vehicle (AFV) projects that are catching attention locally and nationally.

The Park has received two hybrid-electric buses that will be part of a six-month demonstration project for advanced technology automobiles in the national park system. The city of Gatlinburg's mass transit system will operate the buses for the Park. The buses come to the Park by way of \$150,000 in funding from the Green Energy Parks Transportation Program that is part of the U.S. DOE Clean Cities Program.

On Tuesday, September 28 at the Welcome Center off the Pigeon Forge-Gatlinburg connector, locally involved parties and officials held a media event to show off the new buses. Those speaking that day included new Smokies Superintendent Dale Ditmanson, Sevier County Mayor and Sevier Transportation Board Chairman Larry Waters, Director of TDOT's Office of Public Transportation, Rail and Waterways Diane Davidson, Gatlinburg Mayor Jerry Hays, and ETCFC Executive Director Jonathan Overly (on behalf of DOE). Each addressed the variety of benefits that this project is bringing to the region, of which air quality was a hot topic. Another key benefit that was mentioned repeatedly is partnerships and cooperation.

The day included a ride for interested parties. On the ride we learned that the buses are 22 feet long and seat 22 riders. The seating configuration is of a perimeter format where all the seats are against the outside of the bus facing in; this fosters communication between



the riders. The buses have 48 batteries connected in series, which develop the high voltage needed to produce enough power to move the vehicle and its passengers. The bus is an electric drive system, and the on-board propane-fired microturbine serves to keep the batteries charged.

The buses are manufactured by Ebus and are actually powered by both propane and electricity. Although the buses utilize an electric drive system, the batteries are charged in three different ways: 1) the on-board microturbine that runs on propane, 2) regenerative braking which turns braking power into electric power via an on-board generator and 3) by being directly plugged in during times

(continued on page 2)

KAT up to 80% AFVs in their Fleet in under 2 Years

This Summer and Fall, Knoxville Area Transit (KAT) has added biodiesel to their mix of alternative fueled and hybrid vehicles.

Between June and September 2004, KAT has turned approximately 80 of their total of 120 vehicles into B20 users. Mark Hairr, General Manager for KAT, says "our Clean Fuels Program has now reached 80% of KAT's fleet."

Barry Greenberg, Director of Maintenance, adds "for the biodiesel work, we started with a lower blend (B5) to allow time to clean out any petroleum residues left in the buses, but quickly progressed to B20."

KAT now operates biodiesel, propane and hybrid vehicles in its fleet. There are roughly 80 biodiesel vehicles running B20, 4 propane hybrid-electric trolleys, 15 dedicated propane vans and 4 Toyota Prius.

Riders are even showing their appreciation by letting Greenberg know of their happiness with the new cleaner fuel fleet. Recent football game riders were talking with Greenberg and sharing their approval of KAT's new cleaner moves.



This is one of KAT's trolleys that operates around the downtown Knoxville area. All of the diesel trolleys, and another 70 diesel KAT vehicles, are now running on B20. KAT has recently received national accolades for their hard work on improving their transit system on all fronts.

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Clean Fuels Checklist:

Be part of the solution, not the pollution.

Check out the ETCFC Website www.etcfc.org



Let us know if your name or address needs updating (send to jgoverly@utk.edu).





McGhee Tyson Airport Involved with Biodiesel and Efficiency Projects

Thanks to David Jones, Environmental Manager at the Metropolitan Knoxville Airport Authority, they have begun a biodiesel project.

Only a few tractors are trying B20 right now, but Jones notes "our test phase has proven very positive so far and plans are being made to expand the B20 usage to more of our industrial work vehicles."

On another project, Carla York with SAIC is working with the Knoxville airport on something that could be the advent of what you might see at the airport in the future: greater efficiency in moving luggage, people and other materials.

The project works from looking at today's airports, which are in many respects inefficient and costly to operate, to a simplified system that uses more automation. The project includes possible hybridization of airplanes, too.



One of the tractors that Metropolitan Knoxville Airport Authority is testing a biodiesel blend in.



For more information on the ETCFC and alternative fuels, and to see pictures of other regional projects, visit us online at www.ETCFC.org.

Ijams Nature Centers Runs Clean on Biodiesel

Ed Yost, Park Manager for Ijams Nature Center, likes biodiesel. "We like it. It provides the same power as regular diesel but with a lot less smoke. We try to use fuels that are better for the environment and are glad biodiesel is becoming more popular and available locally."

Ijams has three vehicles on B20: a 2000 Gehl skid loader

(pictured at left), a 1982 Ford tractor and a 1986 Kubota tractor. They've been filling up with B20 from the Mr. Gas Texaco in Maryville since June.

Ed adds "folks should look for diesel options when buying new equipment so that they can run on biodiesel. Kubota has a nice zero-turn mower that's diesel." Ed has a good point. Diesel vehicles are becoming more prevalent with the introduction of diesel versions of the 2005 VW Passat and Touareg, Jeep Liberty, and Mercedes E320. Many off-road vehicles come in diesel versions as well.



The Smokies and Gatlinburg Take Big AFV Steps

(continued from page 1)

of non-use (typically overnight).

In addition to their new hybrid buses, each of these two entities is working on several other alternative fuel and hybrid projects.

The Park has had several Toyota Prius and neighborhood electric vehicles in their fleet for 1-2 years now. The Prius (3) are used as staff vehicles while the electric vehicles (8) are used for groundskeeping service around Cades Cove, Tremont and Look Rock. Additionally, the Park started using biodiesel earlier this year, and has since expanded their biodiesel use to all of the diesel vehicles at the headquarters location. They are working to get biodiesel in use at the Cades Cove location, too.

Gatlinburg has also been working on several AFV projects. Their first project was to purchase three compressed natural gas (CNG) police cruisers, which have been used in the city fleet for over a year now. Gatlinburg has been making waves on the biodiesel front as well by running two older trolleys on B5, then B10 and now B20. They have not encountered any problems, and are now deciding how to expand uses of biodiesel to other city diesel vehicles. Most likely, they will integrate use of B20 into the city fleet



Larry Waters, speaks about the hybrid bus project while (from left) Buddy Parton, Director of Gatlinburg's mass transit system, Jonathan Overly, Diane Davidson, Dale Ditmanson and others listen. At far right are Earlene Teaster, City Manager of Pigeon Forge, and Mike Werner, Vice Mayor of Gatlinburg.

over time, but do plan to begin using their primary underground diesel storage tanks to hold the B20 as soon as is feasible.

ETCFC '04-'05 Steering Committee

Our Steering Committee is made-up of nine members from a variety of organizations and areas in East Tennessee. Each member serves a 3-year term.

The 2004-2005 Steering Committee for the ETCFC is:

Doug Bishop - City of Sevierville

Teresa Cantrell - Great Smoky Mountains National Park

Bob Colby - Advanced Transportation Technology Institute

Barry Greenberg - Knoxville Area Transit

Dejim Lowe - Tennessee Valley Authority

Dan Pursglove - Interested Citizen

John Trollinger - McNutt Oil

Parks Wells - Tennessee Soybean Promotion Council

Carla York - SAIC



East Tennessee Citizens Finding Biodiesel

In the last month, the ETCFC has met several new people that are finding biodiesel locally, including the following folks.

After being in the Alcoa vehicle shop briefly, Bud Cooper, the Road Sergeant for the Alcoa Police Department, noticed a different smell. After asking a few

questions, he found out that the difference was biodiesel. "I asked where we were getting it and found out it was a local Calloway Oil station," says Cooper. It didn't take long before he had his first load of B20 in his 2002 Ford F350.

"I've filled up about 5 times now, and I'm realizing about a 10% increase in fuel economy." Go Bud!



Top: Bud and Victoria Cooper stand next to his F350 that is running on B20 from Calloway Oil.

Bottom: Dan Pursglove talks biodiesel with Joe Papa (right) before he fills up at the Alcoa Mr. Gas B20 station.

When several ETCFCers were recently meeting at the McNutt Oil Alcoa public B20 station and standing in front of the B20 pump, Joe Papa drove up and said "Excuse me fellas but I need to get to that biodiesel!"

Papa owns a blue 2002 Jetta Wagon and has been filling up there since early September. He heard about the opening of the pump via the National Biodiesel Board's Web site and is well-informed about the benefits of biodiesel. "I read the Web site www.thesoydailyclub.com frequently and learn a lot about how positive a decision using biodiesel is. I can help with emissions, energy independence and supporting farmers all in the same blow!" says Papa.

Copper is participating in the ETCFC's Biodiesel Brigade, and we're still working on Papa (see the article on page 5)!

2004-2005 Membership Drive

The ETCFC strives to diversify its funding sources, but is very dependent on local membership dues to survive. That is why we are asking local companies and individuals who care about regional air quality and national energy independence to consider becoming a partner.

We have six different membership levels (as shown on page 5) that are benefits based, so partners not only help us stay on the ground working for action, but also reap benefits from their partnership.

You can read more about membership on our Web site, www.etcfc.org (the membership form is on our "Join Us!" page), or call us to ask how your action can make a difference in your community.

Please consider join the ETCFC so you can be a member of the team that is making change in East Tennessee on a daily basis!

Outreach Leads to Action in East Tennessee

Reach out. Reach out and touch someone.

That old AT&T ad slogan is a good fit for what the ETCFC is doing, and with success. Over the last couple of years, the ETCFC has setup many meetings with regional organizations that have led to action this year. Here are four examples:

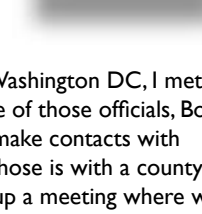
Before our district meeting in Chattanooga in May, I contacted Brian Kiesche, Fleet Manager for the city, and we discussed how his fleet could be more involved with helping the city address ozone nonattainment while doing something very pro-American. Kiesche attended that meeting and got juiced about biodiesel. Now, the city has submitted a proposal to purchase a new tank to hold biodiesel so they can begin putting B20 in their waste hauler fleet as a first step toward moving the entire city diesel fleet to biodiesel.

I met Brian Jenks this year by participating in the Regional Clean Air Coalition. Jenks, the Public Works Director for Anderson County, was receptive to discussion about biodiesel. He suggested we setup a meeting with County Mayor Rex Lynch and Director of Emergency Services Robert Byrd. We met, and based on what they learned (and continue to learn), Jenks is putting a plan to action to begin filling a couple of their emergency service and public works vehicles with B20.

In Summer 2003, Tommy Hunt, Vice President of Calloway Oil, agreed to meet to discuss alternative fuels. We met and discussed several alternative fuels, including biodiesel. Over time, Hunt and I continued to talk, and Hunt began producing results. He spearheaded the project that now has Alcoa, Maryville and the Blount County Highway Department using B20. And Maryville has just recently expanded their use of biodiesel to several other parts of their fleet, including a fire engine (see article page 5).

Through scheduled meetings with senators in Washington DC, I met several elected officials from Athens, Tennessee. One of those officials, Bo Perkinson, Mayor of Athens, has helped the ETCFC make contacts with several different fleets in McMinn County. One of those is with a county schools official, and we are currently working to setup a meeting where we can further discuss biodiesel as an option for the county school bus fleet. Additionally, Perkinson is working to see how he can begin getting biodiesel used in the city's fleet.

There are also several examples of outreach that have not yet produced action, but we are not giving up! Team members of the coalition work tirelessly to educate others and "reach out and touch" new people that could help their community become a cleaner, more proactive place for doing things the American way.





Hallsdale-Powell Utility District's Big Move to Biodiesel

Hallsdale-Powell Utility District (HPUD) is making the move to biodiesel in a big way.

"We starting with B5 in a few vehicles, but plan to expand that use to all our vehicles once we're comfortable with the fuel," says Darren Cardwell, Vice President and COO of HPUD. "Once we've moved to B5 in all our diesel equipment and worked through any issues if they arise, we'll move to B20."

Cardwell explained that it was CEO Marvin Hammond who began hearing about and took an interest in biodiesel. "Through discussions with Knox County Mayor Mike Ragsdale about air quality issues becoming more important in our region, he started looking for opportunities to get involved," notes Cardwell. "Since we are a proactive utility, using biodiesel was a perfect fit for us."

They connected with Mike Ellis of Clinch

River Valley Energy (CRV) and soon thereafter took delivery of their first load of B5.

They started filling a few vehicles with B5 mid-September, and are happy to be supporting the use of renewable fuels in the community. "Renewables are important to the United States future, and biodiesel helps us do our part to support them and improving air quality at the same time," says Cardwell.

HPUD provides water and wastewater services to 65,000 people in the communities of Halls and Powell in North Knoxville.



Alt Fuel News & Notes

FOUND: AFVS ON THE TARMAC AT THE KNOXVILLE AIRPORT - Through connections made at the Knoxville airport thanks to the Metropolitan Knoxville Airport Authority's David Jones, we found out there are several dedicated electric tugs with American. The ETCFC was recently provided an opportunity to present our work at a meeting of the airport flight agency staff. Kelly Brennan noted that American Eagle has had electric tugs for several years now. The ETCFC, with David Jones help, is working to establish a listing of vehicles on the tarmac side to begin helping those agencies work toward greater use of AFVs.

PRESENTATION TO SUMMER DEBATE SQUAD - Jonathan Overly of the ETCFC presented foreign oil dependence issues to about 40 middle and high school students who were part of a Summer debating league. The class had so many questions we stayed over almost 30 minutes to give them more

perspective on the problem. They enjoyed it so much they plan to invite us back next Summer!

CHANGE AFOOT AT THE ALCOA PLANT - The Aluminum Company of America (ALCOA) is finalizing plans to begin using biodiesel in all of their onsite diesel equipment. Once they decide on a supplier, they plan to begin running B20 in their diesel equipment, which includes forklifts, trucks and a locomotive, by Spring 2005.

SOUTHEAST ALT FUELS TASK FORCE UPDATE - The SEAFTF is creating 2005 and 2010 goals and is working to solidify those soon. The Infrastructure Working Committee, that the ETCFC participates on, is working toward expanding the availability of biodiesel and ethanol infrastructure, including 3 public stations each in the next year across the four states that participate: GA, NC, SC and TN.

Top: A 2001 Chevrolet 7500 that is already running on B5.

Bottom: An 1993 International service truck and 2005 Bobcat that will both be moved to B5 in October.

Big South Fork Advances Its Alternative Fuel Efforts with CNG

Big South Fork National River and Recreation Area (NRRRA) recently took delivery of their first Compressed Natural Gas (CNG) vehicle, a Chevrolet bi-fuel CNG Silverado.

The vehicle will be used by the Big South Fork Facility Management Division to support their maintenance work in the parks campgrounds.

The park is also working with FuelMaker to acquire the refueling infrastructure needed to support the new CNG truck. They expect that equipment to be installed in October of this year.

"This is our second successful alternative fuels effort this year, following our move to using B20 in all our diesel equipment," says park Superintendent Reed E. Detring. "The park would like to serve as an example for the counties adjacent to Big South Fork, on how they too can participate in alternative fuel actions."

Detring and his staff have already provided contact information for a local school district to Jonathan Overly at the ETCFC.

Detring noted, "The Park is ready to work with the ETCFC to help bring alternative fuels into our region. Big South Fork NRRRA is involved in the local communities and alternative fuels give us an excellent way to make a positive connect with our neighbors and to work together for the common good."



Zane Roberts, Auto Mechanic, and Reed Detring, (at right) Superintendent stand next to Big South Fork's new bi-fuel CNG Chevrolet Silverado.



Biodiesel Brigade Up and Running

Began in September 2004, the "Biodiesel Brigade" is a collection of biodiesel users in the community that are showing their pride by placing 10" x 30" magnets on their vehicles that display their alternative fuel proactiveness. At this point, the Brigade is made up of mostly individuals, but McNutt Oil is also participating.

The ETCFC is using educating and marketing funding to pay for the magnets, and the printer, I-Day Signs & Banners, is offering the ETCFC attractive pricing as a nonprofit.

The Brigade is currently made up of the following people who are running their diesel vehicles on B20: Mark Downing (Ford F350 and Volvo [running B100]), Dan Pursglove (Jetta), Bud Cooper (F350), Mike Whedbee (Mercedes Benz) and McNutt Oil (service truck). After receiving

his, Dan Pursglove noted "I just had three people ask me about it yesterday."

If anyone is interested in becoming a partner for a cleaner community and supporting the use of a renewable fuel, and is already or beginning to fill their



This is the signage that the Biodiesel Brigade partners are displaying on their vehicles.

diesel vehicle with a biodiesel blend, contact Jonathan at 865-974-3625 to join! We will find a sign size that will fit your vehicle, get your magnets printed and then get them to you as fast as we can!



Join the ETCFC

The ETCFC works hard to simultaneously reduce foreign oil dependence and improve regional air quality by putting alternative fuels to use in the transportation sector.

This work is vital to our country as there will be a world oil peak in the coming century, perhaps within the decade, and renewable-sourced hydrogen as oil's replacement is no where near ready for prime time. Additionally, this work is vital to Tennessee, as our air quality problems are serious and we have to start creating more local action to make a difference.

And we can.

If you'd like to get involved, come to one of our monthly meetings and hear straight from the users' themselves how local fleets and individuals are making the switch. Go to our Web site, www.etcfc.org to see when and where monthly meetings are held.

Also, consider supporting our effort by becoming a member! Membership has many benefits, and includes receiving the ETCFC newsletter, *Clean Fuels Advisor*, free! More membership information can be found on our Web site as well.

PARTNERSHIP LEVELS (annual dues)

Founding Partner	-	\$4,000
Platinum Partner	-	\$2,000
Gold Partner	-	\$1,000
Silver Partner	-	\$500
Associate Partner	-	\$200
Supporting Partner	-	\$25

The Supporting Partnership level is reserved for nonprofits and individuals.

Calloway Oil Opens Public B20 Station

Calloway Oil has recently opened their fuel depot at 2128 East Broadway to provide B20 to the public.

Although they have been providing biodiesel blends to several East Tennessee fleets for about six months, it was not until September 1st when they placed another tank at that location that they could begin providing this service. Their first biodiesel tank held B100 from which they splash blended (mixed in a delivery vehicle) B20 for delivery to regional customers; the new tank allows the onsite holding and refueling of B20.

"We're happy to take this next step," says Tommy Hunt, President of Calloway Oil. "We'd had several customers take note of our biodiesel efforts and ask when they could start filling up as well, so we are now able to provide for them and to the growing population of biodiesel users in this area."

They now have several customers coming from Blount and Sevier Counties for B20. The B20 is available at their primary fuel depot which is located directly behind their EZ Stop convenience store on East Broadway.

Maryville Expanding Their Use of Biodiesel

After testing biodiesel in two brush trucks for approximately 6 months, the city of Maryville is expanding their use of biodiesel as B20 to other diesel vehicles.

The Public Works, Electric, Water and Fire departments all chose diesel vehicles that operate on a daily basis that began running a B20 blend in September.

City Manager Gary Hensley stated, "The City is committed to doing our part to help our area attain the EPA standards for acceptable levels of ozone. Since transportation is said to be responsible for much of the pollution, we decided to begin with the vehicles we use throughout Maryville on a daily basis."

Public Information Officer Pam Arnett stated that there are many advantages to the fuel besides the decrease in air pollution. "The cost of the fuel is currently about \$0.20 more than regular diesel fuel. The B20 blend claims to reduce wear and tear and make the engine components last longer. Over time, this



Fire Engine #3 is now using B20. This is a big first step for East Tennessee, and Maryville is taking that step.

could balance out the extra \$0.20 per gallon we are currently paying."

David Morton, city purchasing agent is also pleased. "We consider ourselves an active community for the environment, and this just adds to our resume."

East Tennessee Clean Fuels Coalition

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www.etcfc.org



Alternative Fuels to the Rescue

ETCFC.ORG

EAST
TENNESSEE
CLEAN FUELS
COALITION

Be part of the solution, not the pollution.

Partners' Fall Update

There's a lot going on right now, so here's a briefing on what some ETCFC partners are up to:

McNutt Oil - Have sited a B100 tank on their property and moved the Loudon Mr. Gas station from B100 to B20 (now the 3rd public B20 station in East Tennessee, along with Alcoa and Newport). The B20 at all three stations costs, as of 10-1-04, \$0.02 more per gallon than #2 diesel. Attended and presented to the Loudon County Commission on biodiesel at the August meeting; following up with them on specific fleets to target.

City of Sevierville - The first 2 of their 4 Ebus hybrid-electric trolleys were received in early October; they expect to receive the others before November. 4 dedicated propane Dupont trolleys have been ordered and are expected in February 2005.

Anderson County - Brian Jenks, Director of Public Works for Anderson County, is working to place a biodiesel tank so that his department and the Emergency Services department can begin demonstrating biodiesel as B20 in a couple of vehicles. If all goes well with the demo, they plan to expand use to more vehicles over time.

U.S. Biofuels - With capacity of about 10 million gallons per year, and a strong eye for keeping costs down, U.S. Biofuels reach is growing. They recently won the contract for providing biodiesel to fuel the state of Maine's public buildings with B10; they provide biodiesel to Georgia Building Authority and the Georgia DOT; and they are providing biodiesel to several customers in Tennessee, Mississippi and Texas.

Ebus - Through the bankruptcy of Advanced Vehicle Systems in Chattanooga in 2003, their equipment and other assets went up for sale this year. What was originally another part of their organization, Ebus out of Downey, California, purchased it. Ebus is currently exploring the possibility of production there. Ebus has also leased the facility and property.

Sevier County Co-op - Currently deciding at what blend and how they will supply a biodiesel blend to the public from their facility in Sevierville. Most likely looking at simply making all of their on-road diesel a B5-B20 blend, depending on cost. That product would be offered to the public at their station and could be delivered to county organizations or people directly as well.



ETCFC 2004 Partners

Founding Partners

**University of Tennessee,
Knoxville**
Oak Ridge National Laboratory
Sevier Transportation Board

Platinum Partners

AmeriGas Propane
Knoxville Utilities Board
Sevier County Utility District
Dream Works Printing

Gold Partners

McNutt Oil
Tennessee Valley Authority

[20 Silver & Associate Partners]