

U.S. DEPARTMENT of ENERGY

ALTERNATIVE FUEL NEWS

An Official Publication of the Clean Cities Network and the Alternative Fuels Data Center

From the Office of Energy Efficiency and Renewable Energy



Going Once...

AFV Auctions Bring Buyers,
Sellers Together Under One Roof



PLUS:

Community Groups Rally for AFVs
Ford's New CNG School Bus

INSIDE:

**High Tech
Goes Retro**

Dear Readers,

Normally this space is devoted to my perspective and commentary about the features in the current issue. This time, however, we have chosen to publish the perspective of another Clean Cities leader and AFV advocate. I think when you read the article below, you will agree that the term “American Fuels” is much more appropriate terminology than “alternative fuels.” I for one have a much greater sense of pride knowing that I drive an American Fuel Vehicle (AFV).

Shelley Launey

Clean Cities Program Director
U.S. Department of Energy

Why I No Longer Support Alternative Fuels and Alternative Fuel Vehicles

Darwin J. Burkhart

Yes, it is true. I have made a career out of alternative fuels and vehicles. I have developed and managed several alternative fuel programs and worked with local governments and businesses to implement alternative fuels. And after ten years of this, I can no longer promote them. In my opinion, it's time to dump alternative fuels!

Why the sudden change of mind? Have I given up? Am I suffering from burnout?

Hardly. I have just grown weary of how we market alternative fuels and the lingo that we use. Let me explain by using some examples and I think this will speak for itself.

- The principal recommends that your son attend an alternative school because it will be better for him.
- Your 18-year old daughter suddenly announces that she will no longer join the family at church on Sundays because someone has talked her into joining an alternative religious group.
- Your doctor tells you he can treat your ailment with conventional medicine or by using a new, alternative method... your choice.
- You say to the fleet manager “I think you should go with alternative fuels and vehicles; you'll like it much better than using conventional fuels.”

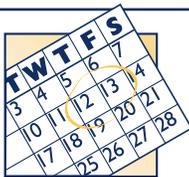
Sometimes, we can be our own worst enemy. In all of these examples, the word “alternative” conjures negative thoughts and feelings, or at least a lack of comfort. “Alternative” is often synonymous with experimental, unproven, and demonstration, and brings the guinea pig to mind. You won't find that in the dictionary, but that's how it is perceived. In fact, “alternative fuel” is the only example I can think of in which “alternative” means something positive. (But I'm biased.) It is amazing that “alternative fuels” and “alternative fuel vehicles” have made it this far, and with such success.

But these fuels and vehicles are no longer alternative—they are part of the mainstream. They are proven, reliable, safe, and successfully used. Sure, the numbers are relatively low, but momentum for their use continues to grow. Now is the time to shed the inferior label. Let's recognize them for what they are and give them due respect. Those of us in the business need to change the lingo. We need to find an alternative to “alternative.”

It's all about marketing and perception. We can be better marketers of these fuels and vehicles just by calling them something different (but accurate). Why do more governments and businesses use ethanol, natural gas, propane, electricity, and biodiesel? Not because these fuels are “alternative,” but because they are clean, green, renewable, and made in America. Therefore, the terms clean fuels, green fuels, renewable fuels, domestic fuels, and American fuels seem more appropriate. I use all of them interchangeably, and the responses from prospective fleets are much more positive than when I use the term “alternative fuels,” which means nothing to them.

So what do we do with our favorite acronym, AFV? The “A” now stands for American. An AFV is an American Fuel Vehicle. We're all feeling more patriotic these days. Who wouldn't want to buy American Fuel Vehicles that run on one or more clean, green, renewable, domestic, American fuels? And, more importantly, what member of Congress or a state legislature wouldn't vote for American fuels and American Fuel Vehicles? The alternative would be perceived as “un-American.”

Darwin Burkhart is the Chairman of the Chicago Area Clean Cities coalition and an advocate of American Fuel Vehicles (AFVs). He can be reached at 217-557-1441.



Upcoming Conferences and Events

Biodiesel Fuel Workshop

September 9–13, 2002
Loveland, Colorado
Contact: Solar Energy International
970-963-8855
www.solarenergy.org/biofuel.html

8th International and 20th National Conference and Exhibition of Natural Gas Vehicles

October 8–10, 2002
Washington, D.C.
Contact: NGVC
202-824-7360
www.ngvc.org

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PX 11445

AFV growth is evident in GSA auction sales data. Last year the agency sold approximately 1,400 AFVs. More than 3,000 will be sold this year, at GSA auctions such as this one held on June 18 in Denver.

Conclusions in the report, titled “Successes and Challenges in the Resale of Alternative Fuel Vehicles,” are based on auction sales data, industry interviews, and focus group discussions. See related story, below.

According to the report, when AFVs are offered for sale, they are sometimes viewed with suspicion by private individuals. To people unfamiliar with the AFV industry, alternative fuels may connote poor performance or

reliability. Reduced trunk space is a concern about some CNG vehicles. The appeal of AFVs can be further constrained by lack of local fuel or service.

Despite such obstacles, there is one arena where AFVs are bought and sold actively, by fleet operators, auto dealers, government officials, and even individuals. Vehicle auctions are conducted regularly by the U.S. General Services Administration (GSA). Last year, at more than 50 auctions sites nationwide, GSA sold approximately 35,000 used vehicles including 1,400 AFVs. This year it expects to sell approximately 3,160 AFVs, taking in more than \$12 million in revenue.

GSA purchases 35,000–40,000 vehicles per year. “We buy directly from auto manufacturers, and we do negotiate favorable purchase prices,” says GSA national remarketing coordinator Lander Allin. Vehicles sold at GSA auctions are competitive with those sold at private auctions, but not lower-priced, he said. More information on GSA auctions of AFVs is available at www.autoauctions.gsa.gov/afv.

AFV Auctions, Other Actions

“Successes and Challenges in the Resale of Alternative Fuel Vehicles” was produced by consulting firm eMobility International (formerly Dorfman & O’Neal) for the DOE Federal Fleets Program. The 34-page report is available at www.afdc.doe.gov/pdfs/usedafv.pdf.

Auctions are not the only way to stimulate used AFV sales, the report says. Recommendations include creating a system to track potential buyers and sellers and establishing a Web-based sales forum. Other ideas pertain to expanding manufacturer rebates and incentives, and restricting eligibility for use of high-occupancy vehicle (HOV) lanes to dedicated AFVs. Above all, it recommends a cultivating a closer working relationship between Clean Cities and GSA.

AFV Auctions Bring Buyers, Sellers Together

Success in maintaining an AFV fleet depends not only on the ability to purchase new vehicles economically, but also to sell used vehicles at fair prices. Resale value is a major issue affecting all fleet vehicles whether alternative-fueled or not.

Resale value is a top concern even for fleet operators who choose to lease—not buy—their AFVs. That’s because a leased vehicle’s residual value (the price of the used vehicle upon lease expiration) directly affects the size of monthly payments. Cars that retain more of their original value when resold tend to require lower monthly lease payments than those that don’t.

Many fleet operators, both in business and government, replace their vehicles on regular schedules. The rapid turnover rate ensures a steady supply of used cars in general, including certain types of AFVs. So government agencies that must meet legal AFV acquisition mandates can often do so in the used car market, and save money.

Prevailing prices of used AFVs, especially dedicated-fuel models running on compressed natural gas (CNG) or propane, are important but not easily determined. According to a recent DOE-sponsored report on the AFV resale market, flexible-fuel vehicles (FFVs) that can run on gasoline or E85 ethanol fuel are rightfully priced in line with comparable gasoline-only cars. But it continues with the following point:

On the other hand, the current inventory of natural gas and propane vehicles available to the resale market comprises largely outdated aftermarket conversions that often have outlived their useful lives and have little resale value. It would therefore be inappropriate to compare and contrast the resale experiences of these conversions with the FFVs, or to draw any conclusions about their relative residual values.

What is GSA?

Formed by federal legislation in 1949, GSA was assigned generally to improve administrative services of the federal government. In the early years, that included storing government records, disposing of war surplus, preparing the nation for emergencies, and many assorted functions no longer a part of the GSA mission.



Today, GSA provides policy leadership and expertly managed space, products, services, and solutions, at the best value, to enable federal employees to do their jobs. GSA manages federal assets valued at nearly \$500 billion. Such assets include buildings, telecommunication and computer systems, and a fleet of approximately 185,000 vehicles. GSA employs more than 14,000 people.

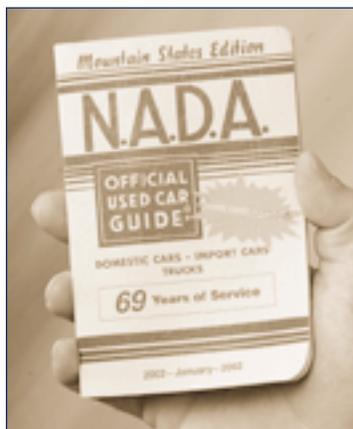
GSA is a catalyst for nearly \$66 billion in federal spending—more than one fourth of the government's total procurement dollars. But only 1 percent of the agency's total budget comes through direct congressional appropriations. The majority of the GSA's operating costs must be recovered through the products and services provided.

CALIFORNIA CARS

California's Northwest Riverside County Clean Cities Coalition receives substantial support from the Western Riverside County Council of Governments, which influences air quality and transportation issues in the region. Coalition coordinator Ruthanne Taylor Berger is deputy director of the council, and Mike McCoy is a staff analyst with the organization.

When a GSA vehicle auction was announced in Riverside earlier this year, the Clean Cities coalition realized many AFVs would change hands. Coalition members sprang into action to publicize the event. They prepared a flyer generally describing AFVs to be sold, and emailed it to approximately 70 stakeholders including government fleet operators and potential corporate customers. A more targeted mailing was done later, followed by reminder phone calls a day before the event.

The auction was held on a Saturday, but turnout was impressive, said McCoy, who was among the attendees. More than 130 vehicles were sold, of which approximately 25 percent were AFVs, he



Auction participants rely on car price guides like this one from the National Automobile Dealers Association.

estimates. Most of those were CNG-fueled sedans and vans, plus a handful of E85-fueled cars.

Government agencies were the predominant players, both as buyers and sellers, said McCoy. "A lot of AFV users in California are reaching their second or third generation of vehicles, so there is a substantial supply," he said. Many fleet operators were interested in acquiring used vehicles to help meet city, state, and air district mandates, as well as federal mandates created by the Energy Policy Act of 1992 (EPAct).

"What's most encouraging is that the AFVs held their own in terms of appeal and value," said McCoy. Most of the auction's CNG sedans sold at 85-90 percent of fair wholesale value for a comparable gasoline vehicle. Wholesale prices are not published specifically for AFVs, because of their low overall volume. Conventionally fueled used car prices can be found in many published in guides such as the Black Book, from Hearst Business Media, and in a similar guidebook from National Automobile Dealers Association.



Misplaced skepticism about alternative fuels can be a boon for used car buyers. Case in point is the Ford Contour sedan, found in abundance at GSA auctions. Black Book wholesale value for a 1998 Contour LX, for example, was \$4,750 in May of this year. But many 1998 bi-fuel CNG Contours were selling at auction for approximately \$4,000 at that time.

In addition to energy and environmental attributes, another reason cited by Riverside buyers for their interest in AFVs is access to high-occupancy vehicle (HOV) highway lanes. AFV drivers in California have long used HOV lanes. Several states including Utah have followed suit.

The auctioneers announced and welcomed the presence of Clean Cities stakeholders at the start of the event. A natural gas supplier representative was on hand to answer questions about CNG. Many of the barriers to public AFV sales, such as false perceptions about performance or reliability, were effectively eliminated.

The Riverside auction was conducted professionally, without creating the anxiety, as some auto auctions do, that casual buyers might be at a disadvantage, said McCoy. "I would definitely recommend this as a way for other coalitions to promote the AFV market," he said.

AFV Auctions *(continued)*

DENVER DEALS

GSA auctions are held regularly at Denver Auto Auction, a 100-acre facility located just east of Denver in Aurora, Colorado. Owned and operated by Manheim Auctions, the facility runs auctions not only for GSA but for many automakers and rental car companies. Manheim Auctions is part of Atlanta-based Cox Communications.

A GSA auction in Denver on June 18 attracted a crowd of roughly 200 people including private individuals, used car dealer representatives, and government agency officials. Typically 60 percent of the crowd is individuals, who buy 40 percent of the cars, according to GSA's Colorado fleet manager, Mike Steffan. More than half of all sales at the Denver auction went to the six biggest buyers, apparently dealers. Unlike most other auto auctions, GSA auctions are open to the public, as required by law.

"We need participation from both the public and the dealers," said Steffan. "Without competition from individual buyers, the dealers can really beat us up with low bids."

Some 122 vehicles were offered for sale at the Denver auction, and all but five were sold. Sales included 19 bi-fuel CNG cars, most of which were Ford Contours formerly driven by employees of GSA, DOE, the U.S. Army,



A fast-paced process at Denver Auto Auction yielded 117 vehicle sales in barely two hours.

and the Department of Interior. Also sold were one dedicated-fuel CNG minivan, and 10 flex-fuel E85 vehicles including Dodge Caravan minivans and Ford Taurus sedans. Three quarters of all sales were gasoline vehicles including many Ford Broncos, Jeep Cherokees, and Plymouth Breeze sedans.

The vehicles were available for viewing on two separate days prior to the auction day, and for three hours on the day of the event. Potential buyers could kick the tires, open the hoods, and start the engines, but were not allowed to drive the cars. Available before the auction, both in print and on the Web, was a listing of all vehicles including the make and model, model year, and VIN number. Available after the auction on request was a listing of vehicles sold and their sale prices.

The event's pace was very fast. As each vehicle pulled up in the center lane, sandwiched by bleachers on both sides, an auctioneer began soliciting bids at a pre-determined price. Usually the bidding escalated quickly, initially involving five or six bidders, then two or three, and finally one. Most vehicles were gone in less than one minute. Sale prices ranged from \$1,000 for a 1992 Dodge pickup to \$17,000 for a late model Ford Excursion.

The Denver auction house uses a laptop computer to track the day's sales revenue as a percent of fair market value figures listed in the Black Book. At one point Steffan lamented that the day's prices were tracking at only 92 percent of fair market value. One reason was that certain large buyers weren't present, opting to attend a Salt Lake City auction on the same day, he said. By day's end, however, the ratio of revenue to fair value improved to a more typical 98 percent.

Buying by the Block

States are the only entities with which GSA routinely engages in "fixed-price" sales. Blocks of vehicles, ranging from a few cars to a few hundred, are frequently sold to individual states. Often the buyer is the state department charged with managing surplus property such as cars and computers in a role like that of GSA at the federal level. Representatives of those state entities can (and often do) sell the vehicles to cities, counties, and other agencies within their own states.



Fleets regulated by EPOA usually opt for new vehicles, but they can meet their AFV acquisition requirements just as well with used vehicles. State governments are the third largest group of GSA used vehicle buyers, after auto dealers and private individuals.

Where Alternative Fuel is King In Rural Central Ohio, Entrepreneur Clayton King Made AFVs His Business

Clayton King does not profess to be an AFV hero—he’s simply a small business owner in rural Ohio. But although he shies from the spotlight, King’s Royalty Enterprises exemplifies the “can-do” spirit of a clean fuel entrepreneur and has put Coshocton County, Ohio, on the alternative fuels map.

King first learned about natural gas vehicles while working in Ohio’s oil and gas fields in the early 1980s. Years later he bought a farm equipped with natural gas wells and decided to run his own vehicles on the fuel pumped, literally, from his own backyard. He bought a used compressor and other equipment from a local utility, and Royalty Enterprises’ CNG business was born. His first compressed natural gas (CNG) refueling station opened in September 2000 in Coshocton, Ohio. A second station was opened in nearby West Bedford in March of this year. Drivers use a card reader to access each pump. Although his facilities use smaller compressors and have less storage than the multi-million dollar super stations, King has issued 52 fuel cards in less than two years. He now sells an average of 2,400 gasoline gallons equivalent of CNG per month.

But as any Clean Cities stakeholder knows, a healthy AFV market requires vehicles as well as a fueling infrastructure. “I decided that if I was going to do this, I’d do it all,” says King. He decided to enter the vehicle business as well. Under the umbrella of CNG Auto Sales, a partner company now owned by his brother-in-law, King travels the eastern United States and buys used AFVs at auctions. His transportation is a CNG-fueled truck. News about used vehicle sales travels via the Internet and by word of mouth, says King, who frequents both utility auctions and those run by the U.S. General Services Administration (GSA).



Clayton King (left) was welcomed as a stakeholder at the Central Ohio Clean Fuels Coalition designation ceremony on April 12, 2002. Presenting the honor was Michael B. Coleman, mayor Columbus, Ohio.

King buys bi-fuel and dedicated-fuel sedans, passenger vans, and pickup trucks—usually well below prevailing wholesale prices. CNG Auto Sales can then offer the vehicles to customers in Central Ohio at a discount as well, often below conventional vehicle prices. This significant cost savings has caught the attention of individuals and fleets alike. “About 50% of the people who buy from us are individuals looking for a personal vehicle,” says King.



The April ceremony gave Royalty Enterprises staff an opportunity to display a GMC Astro truck platform that they converted to CNG power. From left, Chris King, Clayton King, Chris Rinehart, and Mitch King.

“They like the fact that they can pay less for their car up front, and still save money with cheaper fuel and maintenance over a lifetime of use.”

Like the auctions he attends, CNG Auto Sales markets its vehicles mostly by word of mouth. Local fleet customers include heating and cooling companies, construction companies, and even several small, one-vehicle transportation companies that cater specifically to central Ohio’s Amish community. Although they don’t personally drive or own vehicles, the Amish do travel via buses and vans.

As in any business, it’s important to make sure customers are happy. That’s why in addition to selling AFVs and alternative fuel, Royalty Enterprises also services the vehicles it sells to its customers. “Dependability is a big factor,” says King. “We sell the fuel, sell the cars, and fix the cars—the complete package. If something breaks we’re on it immediately, and no matter what, we’ll find a way for drivers to get the fuel they need.” Customers needing assistance when refueling can choose from five phone numbers listed at each pump to reach a technician for assistance.

CNG Auto Sales now has more than 20 used AFVs on its lot, and King has enough refueling equipment for as many as five more stations. This fall, the Royalty Enterprises refueling network will grow to three, with a station scheduled to open in Newark, Ohio. *For more information about Royalty Enterprises, please call CNG Auto Sales at 740-623-2185 or Sam Spofforth of the Central Ohio Clean Fuels Coalition at 614-292-5435.*

Students Rise to the FutureTruck Challenge



Courtesy Ford Motor Company

Teams from 15 top universities competed in FutureTruck 2002, starting at the Ford Proving Grounds in Yucca, Arizona.

FutureTruck, a unique four-year program sponsored by the U.S. Department of Energy, brings together the resources of industry, government, and academia to address the important environmental and energy-related issues posed by the growing demand for sport utility vehicles (SUVs). FutureTruck 2002, co-sponsored by Ford Motor Company, challenged teams from 15 top North American universities to re-engineer a Ford Explorer into a lower-emissions vehicle with at least 25 percent higher fuel economy—without sacrificing performance, utility, safety, and affordability.



Courtesy Ford Motor Company

Wisconsin's winning entry featured biodiesel hybrid-electric technology, with 45 percent better fuel economy than a stock Ford Explorer.

a hybrid electric vehicle (HEV) design strategy, as well as other innovative approaches, to increase the efficiency and decrease the overall environmental impact of their SUVs. Eight vehicle engines used E85, three used biodiesel, one used ultra-low sulfur diesel, one used reformulated gasoline, and two were powered by hydrogen fuel cells. Additional technical goals for the competition included reduction of total greenhouse gasses and the promise of emerging exhaust gas treatment technologies to further reduce tailpipe emissions.

After working on their vehicles all year, the teams came to 10 days of intense testing and performance events held June 11–21 at Ford's Arizona Proving Ground in Yucca, Arizona and various locations in the Los Angeles, California area, including emissions testing at the California Air Resources Board and events at the California Motor Speedway.

The results of the competition were impressive. Seven out of 11 teams tested achieved higher fuel economy than the stock 2002 Explorer in an on-road fuel economy test in over 100 degree temperatures. The University of Wisconsin vehicle got 22 miles per gallon, 45 percent higher than the stock Ford Explorer in the same test. Three of the teams, Michigan Technological University, University of Idaho, and Georgia Institute of Technology, reached California ultra low emission vehicle emission levels, one of the toughest vehicle emission standards in the world. At the same time, many of the competition vehicles met or exceeded the performance of the stock Explorer in events such as acceleration, braking, handling, and off-road performance.

The winners were announced at an awards ceremony at the Beverly Wilshire Hotel in Beverly Hills, California. Third place went to the University of California, Davis; Michigan Technological University took second place; and the University of Wisconsin won the competition. Other competitors included California Polytechnic State University-San Luis Obispo, Cornell University, Georgia Institute of Technology, Ohio State University, Pennsylvania State University, Texas Tech University, University of Alberta, University of Idaho, University of Maryland, University of Tennessee-Knoxville, Virginia Tech, and West Virginia University. Additional information about the FutureTruck 2002 and full competition results are available on the Web at www.futuretruck.org.



Courtesy Ford Motor Company

The event concluded at the California Motor Speedway in Fontana, California. Vehicles were evaluated in terms of safety, performance, consumer acceptability, and design.

Community Groups Rally for Clean Cities and AFVs

Working with traditional Clean Cities stakeholders, community groups can contribute to the increased use of alternative fuels. Just ask West Harlem Environmental Action, the United Puerto Rican Organization of Sunset Park, or Sustainable South Bronx. All three organizations participated in the first-ever National Alternative Fuels Day and Environmental Summit at Hostos Community College in the Bronx, New York.

Held on April 11, 2002, in conjunction with the National Alternative Fuel Odyssey Day, the event drew a crowd of more than 200 residents, community activists, business owners, government officials, and other non-governmental organizations. Also attending were New York City high school automotive technology students, who viewed an impressive array of alternative fuel vehicles (AFVs).

Why do community groups care about alternative fuels? According to recent studies by the American Medical Association, Union of Concerned Scientists, and Environment & Human Health, Inc., airborne pollutants in diesel exhaust can reduce lung function and increase the incidence of asthma attacks. Asthma is an especially acute problem in New York City, where asthma hospitalization rates are among the highest in the nation.

Some communities endure a disproportionate share of vehicle emissions. Six of the eight diesel bus depots in Manhattan are concentrated in certain communities. At the Hunts Point Cooperative Market in the Bronx—recognized as one of the largest produce and meat markets in the world—the densely-populated community experiences 20,000 diesel truck trips into and out of the neighborhood each week.

The same medical studies conclude that AFVs can play an important role in reducing air pollution. Building on such recommendations, the New York summit culminated three years of collaboration by more than 30 community-based organizations, fleet owners, academic institutions, corporations, and governments. Its goal was to increase the use of AFVs in the city's affected boroughs.

The summit and its associated activities have already proven effective in boosting New York's AFV market. Manhattan Beer Beverage Company, for example, which operates a fleet of more than 500 vehicles from its South Bronx distribution facility, has committed to using natural

gas trucks. The summit inspired deployment of 22 electric delivery trucks by the U.S. Postal Service. It has reinvigorated the Clean Cities Program in New York, and sparked the formation of BRAVE-1, a coalition of advocates working on AFV projects in the Bronx.

The potential for alternative fuels in NYC is enormous, says Marcy Rood, deputy director of DOE's Clean Cities Program and co-chair of the Summit. "New York City has already placed a lot of AFVs in its municipal, taxi, and bus fleets, and CMAQ funding is available to private fleets. But the team assembled during the last three years has the ability to build on this foundation and concentrate on some major private fleets. For instance, the summit planning committee has already met with Coca-Cola Bottling Company, which operates a fleet of 95 trucks that unload at the Hunts Point Cooperative Market," she said.

The summit went beyond the activities included in typical Advancing the AFV Choice events. In addition to AFV

success stories and a vehicle display, it featured a panel of noted health scientists discussing the health impacts of diesel vehicles. It concluded with a facilitated discussion by policy makers and community activists of how to increase AFV use in targeted neighborhoods. Community representatives joined city and state officials, including City Councilman Jose Serrano and New York State Assemblyman Ruben Diaz to discuss public policies to increase AFV use. In total, 18 recommendations were

outlined in a paper titled, *New York City Outcomes and Recommendations for Greater Alternative Fuel Vehicle Use* (see www.ccities.doe.gov/national_af_day.html). Over the next year, community groups in NYC and others will work toward their clean transportation goals and act upon the recommendations of the outcomes paper.

Omar Freilla, program director of Sustainable South Bronx and co-chair of the summit, said, "I encourage Clean Cities coalitions nationwide to reach out to community groups like ours that can strengthen local efforts. There is a great need and desire for clean, alternative fuels in neighborhoods where the health of residents suffers because of heavy concentrations of polluting vehicles."

Cultivating Collaboration

EPA is soliciting a second round of nominations for collaborative partnerships to address local environmental justice concerns. Detailed instructions are provided at the EPA Office of Environmental Justice Web site at www.ccities.doe.gov/national_af_day.html.



Non-polluting neighborhood electric vehicles were on display at New York's first-ever National Alternative Fuels Day and Environmental Summit.

PX 11450



From the Automakers

Ford's 30-seat CNG School Bus Fills a Niche in Student Transit

A new alternative for helping school children breathe easier is available from Ford Motor Company. Ford's E-450 Cutaway with a dedicated compressed natural gas (CNG) option was certified in 2002 to be used as a Type A1 (gross vehicle weight of 10,000 lb. or more) school bus. According to Ford, it is the first and only original equipment manufacturer (OEM) dedicated CNG school bus of this size on the market and the only OEM-dedicated CNG cutaway on the market.



The E-450 Cutaway school bus has a 5.4-liter dedicated CNG V-8 engine and is expected to seat 30 students. It is rated as an ultra-low emission vehicle. According to Ford, using CNG reduces emissions of sulfur dioxide by 97 percent and carbon dioxide by 50 percent, compared with using gasoline. Emissions of particulate matter, a troublesome characteristic of diesel engines, are mostly eliminated with CNG.

The E-450 Cutaway comes standard with three underbody CNG tanks that provide a range of up to 150 miles. "School buses are an ideal CNG vehicle application," said Bruce Glennie, Assistant AFV Brand Manager at Ford. "You want something that drives loops every day—that's a school bus."

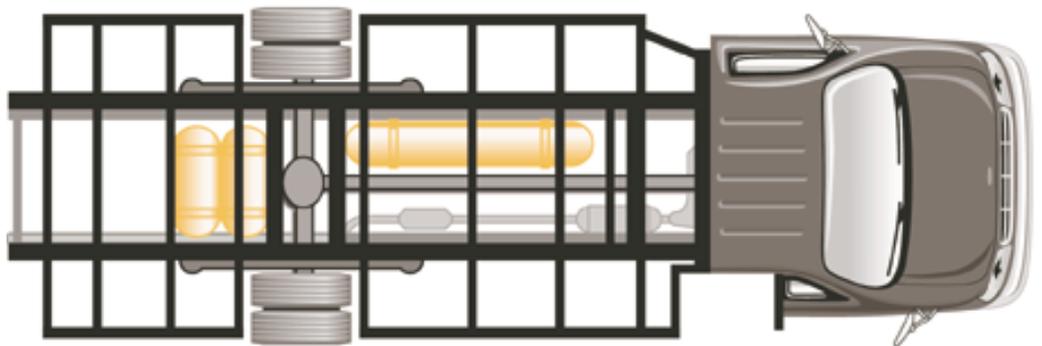
The release of the school bus option comes amid increasing concerns about the effects of toxic diesel school

bus emissions on children (see "Alternative Fuel School Buses Earn High Marks," *Alternative Fuel News*, Vol. 5—No. 3; http://afdcweb.nrel.gov/documents/altfuelnews/5_3cover.html). Ford estimates that about 45,000 school buses are sold each year in the United States, of which about 10,000 are Type A. About 1,400 CNG school buses are on the road today, but all are larger than Type A, making the E-450 Cutaway a unique option among alternative fuel school buses.

The manufacturer's suggested retail price for the E-450 Cutaway with the CNG option is \$37,325–\$37,825, which is about \$13,000 more than the gasoline option and \$8,000 more than diesel. When Ford sells it, the Cutaway consists of only a chassis and passenger cab. To make it a complete school bus, body builders such as Blue Bird and Thomas Built Buses buy the cutaway and install the bus body. The bus conversion typically adds \$16,000–\$26,000, resulting in a final price of \$53,325–\$63,825.

Since its introduction two years ago, more than 600 E-450 Cutaways with the CNG option have been sold, mostly for use as shuttle buses. "You would buy this bus for the same reasons you would buy any alternative fuel vehicle: a cleaner environment and energy security," said Glennie. State and local incentives encourage some school districts to purchase alternative fuel buses, while other districts, such as those in the greater Los Angeles area, are required to do so.

More information about Ford's E-450 Cutaway with the CNG option is available from authorized Ford CNG dealerships; a list of dealerships is available at 1-800-34-FLEET. Information is also available on the Web at www.afv.ford.com.



Ford's CNG-fueled E-450 Cutaway has one underbody mid-ship fuel tank and two aft-axle tanks. Fuel capacity is 16.7 gasoline gallons equivalent.

Handbook and CD Pave the Way to Alternative Fuel School Buses

A recently published handbook—*Making the Grade: Alternative Fuel School Buses*—answers many important questions: Why alternative fuels, and why now? Are alternative fuel school buses really safe? What kinds of incentives are available? And many more.

The accompanying CD—*The Interactive Alternative Fuel Bus Utility Software Program*—enables quick comparisons of the ownership and annual operating costs of the most common alternative fuel engines designed for full-size school buses. It is also easy to add and compare new engines that are not already included on the CD.

The handbook and software were funded by the U.S. Department of Energy and developed by the Nevada State Energy Office and Thomason & Associates, Inc. They can be obtained free of charge by calling the Clean Cities Hotline at 1-800-423-1363. A request can be submitted online at www.afdc.doe.gov/hotline.html, or via email at hotline@afdc.nrel.gov.

GM Unveils AFV Dealer Certification Program

The Alternative Fuels Division of General Motors has launched a program to certify GM dealers to sell and service AFVs. Beginning with model year 2003, only certified GM AFV dealers will sell alternative fuel vehicles from GM. More information on the certification program is available at www.gmaltfuel.com.

More than 40 dealers have become certified so far, GM says. The program was created to ensure the quality of the dealership experience, and to help dealers earn sales and sustain customer trust. To become certified, dealers must agree to send staff members to certain GM sales and service training classes. Additionally, certified dealers must own or purchase various diagnostic equipment and tools, some of which are AFV-specific.



GM started sending its AFV Sales Toolkit to certified dealers in June. Included are AFV selling tips and infrastructure information.

General Motors

GM's certified AFV dealers will receive the company's AFV Sales Toolkit. Included are sales tips and industry information such as viable AFV markets, how to

locate fueling infrastructure, a glossary of fuel types, products, and systems, and creative ways to finance AFVs. Some content for the GM Toolkit was provided by Clean Cities and DOE's Alternative Fuels Data Center.

Certified GM AFV dealers will also receive services such as:

- Support for regional events sponsored by GM, to help position dealerships as local AFV experts.
- Recommendations on how communicate with fleet buyers.
- Exclusive electronic "newsflashes" about product availability and incentive programs.
- Assistance with sales initiatives from GM regional sales managers.

DaimlerChrysler Adds to FFV Lineup



DaimlerChrysler

DaimlerChrysler is expanding its line of flexible-fuel vehicles (FFVs) in model year 2003. Fueling with E85 will be available as a no-cost option in the Chrysler Sebring sedan (top photo) and the Dodge Stratus (not shown), when equipped with the 2.7-liter 16-valve V-6 OHC engine.

Flexible fueling continues to be available in DaimlerChrysler minivans with the 3.3-liter 16-valve V6 SOHC engine. Included are the Dodge Caravan, Chrysler Voyager and Chrysler Town and Country. New for 2003 is the Dodge Cargo Van (lower photo), a version of the Caravan with panel inserts replacing rear windows. FFVs can run on any combination of unleaded gasoline and E85 fuel, which is 85 percent ethanol and 15 percent gasoline.



Federal News

Partnering Approach to Platform Development May Lower the Obstacles to Heavy-duty AFVs

Clean Cities stakeholders embracing the alternative fuel niche market principle have focused much of their efforts on high fuel-consuming, heavy-duty vehicles, such as transit buses and trash haulers. Air quality and energy use concerns also have prompted states such as California and Texas to enact legislation intended to increase the use of heavy-duty alternative fuel vehicles (AFVs) in these key applications. Despite the seemingly inherent demand, however, product availability for heavy-duty AFV fleets is still very limited.

expanding or even continuing their product lines. In the end, many specialized AFV customers can't get the vehicles they need. This vehicle availability barrier is clearly holding back niche market progress.

But a new partnership may help remove the uncertainty of heavy-duty AFV development and commercialization. DOE, along with the National Renewable Energy Laboratory (NREL) and California's South Coast Air Quality Management District (SCAQMD), have joined forces to rapidly configure a variety of popular heavy-duty natural gas vehicle platforms for use as demonstration vehicles to meet niche market fleet demands. The first phase of platform development projects will yield a heavy-duty side-loading trash truck, a medium-duty utility truck, and a medium-duty pickup/delivery vehicle. The vehicles should be available to customers in the mid-2003 timeframe. Although the initial focus is natural gas, the group seeks proposals from manufacturers interested in a second phase of similar projects for other alternative fuels as well.

DOE's new CNG platform partnership with industry and the South Coast AQMD initially will yield a medium-duty truck for use by utilities (top), and a pickup/delivery truck. Both vehicles shown are variations of the Freightliner FL70. Also planned is a CNG-fueled side-loading waste hauler.



PIX 11451

PIX 11452

More information about industry partners in DOE's heavy-duty platform development effort, and about vehicle specifications and availability, will be posted as it becomes available on the Clean Cities Web site at www.ccities.doe.gov/whats_new.shtml.

Unlike light-duty AFVs, heavy-duty vehicles require custom or specialized equipment. At times they are almost made-to-order for each customer. And although the alternative fuel engines may be available, in many cases, the platform engineering has not been done to package them in the configurations that will serve the niche market customers who need them. What's more, says Dennis Smith, Clean Cities technical expert at the U.S. Department of Energy (DOE), the long-term cycle of product development to commercialization has not always allowed the right vehicles to enter the market when they are most needed. The lag time in vehicle availability has resulted in low volume sales and caused manufacturers dependent on the "if you build it, they will come" business model to question

The new team approach could be the first step for staged development of multiple vehicle platforms needed to support niche market growth. "The idea is to develop these vehicle platforms from start to finish, rather than concentrating on components alone," said Richard Parish, a senior project leader at NREL. "We've worked with Clean Cities stakeholders to identify the platforms that can serve specific niche market needs, so the next step is to work with the manufacturers and industry to develop the vehicles. Through our collaborative process, we've worked ahead to line up customers and remove some of the guess work from the commercialization process."

For more information about platform development and vehicle availability, please contact Richard Parish at 303-275-4453 or richard.parish@nrel.gov.

AFV Conversions Continue After Expiration of Option 3

Some Clean Cities stakeholders were concerned last year when the U.S. Environmental Protection Agency (EPA) announced it would not extend a long-standing rule affecting AFV conversions. Set to expire on December 31, 2001, was Option 3 of EPA's Mobile Source Enforcement Memorandum 1A, widely known as Memo 1A.

Option 3, now expired, was one of three ways in which vehicles converted for alternative fuel use could gain EPA emission certification. Considered the least demanding of the three, it trusted service providers to retain their own emission test results, stipulating that unannounced spot checks by EPA might occur. The other options required providers to routinely submit test results for full review by EPA.

Option 3 was in fact set to expire on several previous dates, and each time it was extended. When EPA said last year that the option would finally go away, conversion companies feared their businesses would disappear with it. Equally concerned were their customers, who have long complained that their needs are unmet by original equipment manufacturers (OEMs), and are filled mostly by aftermarket converters.

But while EPA last year was planning to retire Option 3, it was also streamlining the route that would remain for most conversion providers, called Option 1. Much of the motivation to streamline that option was exerted by the Clean Cities Program and its AFV stakeholders. Option 1 operates in substantially the same way in which OEMs certify their vehicles. (The other remaining alternative, Option 2, is based on California certification requirements for aftermarket AFVs.)

What's new under Option 1 is the ability for converters to be designated as small volume manufacturers and take advantage of flexibility in EPA regulations that apply to aftermarket conversions. EPA requirements for these vehicles were outlined at this year's Clean Cities Conference in Oklahoma City. An informative session was held on May 14 by Martin Reineman of EPA and Dennis Smith of DOE.

EPA's current policies allow conversion companies to:

- Forego evaporative emission testing on the gaseous fuel.
- Forego exhaust and evaporative testing on gasoline for dual fuel conversions.
- Forego SFTP and cold CO testing on gaseous fuel.
- Forego fuel economy testing, reporting, and compliance on alternative fuels.
- Use the OEM's deterioration factors rather than EPA assigned deterioration factors.
- Use a much simplified data entry process for submitting data to EPA.
- Anticipate a minimum amount of EPA confirmatory testing of aftermarket conversions.
- Pay a reduced and reasonable amount of fees for obtaining a Certificate of Conformity.

EPA expects to distribute the final version of these policy changes in the next several weeks.

DOE Awards More Than \$4.6 Million to Clean Cities Coalitions in 2002 SEP

Responding to a growing interest in alternative fuels, DOE awarded \$4.68 million to Clean Cities coalitions for 55 projects in 23 states and the District of Columbia. The funds, awarded through DOE's 2002 State Energy Program Special Projects, are leveraged by nearly \$21.4 million in matching funds to support alternative fuel vehicle (AFV) acquisitions in niche markets, vehicle platform development, alternative fuel school bus purchases, vehicle signage, alternative fuel infrastructure development, and Clean Cities coordinator positions. In addition to funds for a record-high 20 coordinators, this year's Clean Cities SEP projects will result in nearly 270 new AFVs on the road, including shuttle vans, taxis, city vehicles, buses, and heavy trucks. Approximately half of the total funding will be used to build alternative fuel refueling stations to dispense natural gas, E85, propane, and biodiesel. By end of DOE's current fiscal year, another \$1 million will be awarded to fund E85 promotion and infrastructure development in several Clean Cities coalitions.

"We are committed to return 50 percent of our annual program budget directly to the Clean Cities coalitions, in the form of grants for alternative fuel projects and financing assistance for coalition events," said DOE's Shelley Launey, Clean Cities program director. "This commitment assumes the program budget will remain between \$8 million and \$12 million. If not, coalition support may vary as well. And with the exception of support for coalition coordinators, nearly all of our funding is used for alternative fuel hardware, contributing directly to the increase of AFVs on the road and refueling to support their use in Clean Cities nationwide." For information about specific projects, please visit www.ccities.doe.gov/support.html.

Clean Air Excellence Awards Program

EPA has launched its third annual Clean Air Excellence Awards Program to honor outstanding, innovative efforts that support progress in achieving cleaner air. Open to public and private entities in the United States, the program offers awards in Clean Air Technology, Community Development/Re-Development, Education/Outreach, Regulatory/Policy Innovations, and Transportation Efficiency Innovations. An award for outstanding individual achievement may also be given.

EPA will judge award entries using general criteria and criteria specific to each category.

Entries must be submitted by September 18, 2002. For more information, visit www.epa.gov/oar/caaac/clean_award.html, or contact Paul Rasmussen (rasmussen.paul@epa.gov) of EPA's Office of Air and Radiation at 202-564-1306.



On the Web

Expanded AFV Site Designed for Consumers

A major addition to the Clean Cities Web site makes it easy for consumers to learn about alternative fuel vehicles (AFVs). The Vehicle Buyer's Guide for Consumers, located at www.ccities.doe.gov/vbg/consumers, does for individual consumers what the Vehicle Buyer's Guide for Fleets has long offered to fleet managers. It provides comprehensive and easily accessible information about AFV technologies, pricing and specifications, fueling locations, and more. In addition, the consumer site offers information about advanced technology vehicles (ATVs) such as hybrid electric vehicles.

The site is designed to help consumers find the AFVs that are best for them. It is found readily by Internet search engines, ensuring that consumers looking for AFV information will be directed to it. An umbrella site at www.ccities.doe.gov/vbg provides basic information about AFVs and directs users to either the consumer guide or the fleet guide. Within the consumer site there are links to AFV and ATV basics, a database of currently available vehicles, information about incentives, and links to related organizations.

The first stop is the "What Are Your Choices?" page. Consumers can learn about AFVs and the fuels that power them: natural gas, electricity, propane, E85, and biodiesel. Other sections provide information about AFV conversions and used AFVs. A future technologies section discusses the exciting potential of fuel cell vehicles.

The "Product Information" page includes a database of AFVs and ATVs, searchable by fuel type, manufacturer, and vehicle class. Multiple AFVs can be compared side by side. The user can access detailed vehicle specs, link to a dealer locator, and perform a cost analysis. The cost analysis accounts for the purchase price of the AFV and its conventional counterpart, applicable federal and state incentives, and fuel costs to calculate an AFVs payback time.

Also included is an "Information Resources" page with links and contacts related to vehicles, organizations, and emissions data. Another section provides AFV and ATV industry news and press releases. The site is continuously updated as new information becomes available.



Clean Cities Roundup

DOE Announces Top 10 Coalitions for 2001

Among the awards presented at the 8th National Clean Cities Conference in Oklahoma City were the Top 10 "cleanest" Clean Cities (see map). Not to be confused with the annual Coalition and Coordinator Awards, this honor recognizes achievements in total AFV market growth—AFVs on the road, using alternative fuel, and refueling stations to support their use. Annual top performers are selected from data reported by coordinators in their annual Clean Cities surveys submitted to DOE.

Like last year, coalitions received points for new AFVs and alternative fuel refueling sites put into service throughout the year, as well as total AFVs on the road and refueling stations in operation. To reflect DOE's energy use objectives, the point system is weighted according to the relative oil displacement potential for the fuels and vehicles. Medium- and heavy-duty vehicles, for example, earn more points than light-duty vehicles. Similarly, only vehicles known to operate on alternative fuel (for at least some of the



time) are considered. Flexible-fuel vehicles, for example, were counted only if operated in proximity to E85 infrastructure. A standard amount of credit is given for every E85 station, and additional credit can be earned by demonstrating fuel use.

AFV Technology Goes Retro in New Haven

On June 10, the city of New Haven, Connecticut, celebrated the addition of four new electric vehicles that will transport visitors and commuters throughout the city's financial district and downtown area. Although now equipped with rubber wheels and air conditioning, the 22-foot red and green electric trolleys were built to resemble the vintage trolleys that rolled along city streets in the early twentieth century. The celebration culminated a four-year effort by the Greater New Haven Clean Cities Coalition. Coordinator Lee Grannis started the project and

won high-level support from U.S. Senators Christopher Dodd and Joseph Lieberman, as well as U.S. Representative Rosa DeLauro, D-Connecticut, who championed \$1.2 million in federal funding that gave the project life. According to Grannis, the project demonstrates the power of public-private partnerships. Support will come from New Haven Savings Bank, United Illuminating, Pro-Park, and LAZ Parking, plus the city of New Haven and the Greater New Haven Transit District, which operates the vehicles.



With air conditioning and zero emissions, New Haven's electric buses, manufactured by Ebus, add comfort and clean technology to the look and feel of the good old days.



New Haven resident Sidney Glucksman (center, standing highest) first suggested electric trolleys to Mayor John DeStefano.



Wheelchair access is another modern feature of New Haven's 22-foot all-electric trolleys.



Greater New Haven Transit District facilities now include overnight charging for four vehicles.



New Haven's trolley conductors sport retro-style uniforms.



Coordinator Lee Grannis tells the downtown crowd of the benefits of clean transportation and Clean Cities. Looking on (far right) is U.S. Representative Rosa DeLauro, who helped win federal funding for the project.

Clean Cities Welcomes New Hampshire

The Granite State Clean Cities Coalition officially joined DOE's Clean Cities Program on May 31. More than 40 coalition stakeholders participated in the designation ceremony, held at the University of New Hampshire's New England Center. Among its recent accomplishments, the coalition worked with U.S. Senator Bob Smith to secure \$1 million in funding to support CNG bus purchases and the construction of a new CNG station for Wildcat Transit, serving the University of New Hampshire and surrounding region.



Participants included (from left) coalition co-coordinator Derek Greenauer of the Governor's Office of Energy and Community Services (ECS), Tom Gross of DOE, Ann Manoogian of ECS, Mike Scarpino of DOE's Boston Regional Office, and Jack Ruderman of ECS.



Coalition co-coordinator Becky Ohler of the New Hampshire Department of Environmental Services talks to Ford representatives about the Ford Focus fuel cell vehicle on display at the event.



Clean Cities program director Shelley Launey (right) drove with Adrian Farley (center) and Christy Ficker of DOE from Washington, D.C., to Durham, New Hampshire in Launey's dedicated natural gas Civic GX. (For more on their trip, please see www.cities.doe.gov/whats_new.shtml.)

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