

SHOWTIMES

CLEAN CITIES

TUESDAY, MAY 9, 2006



Versatile-Fuel Hybrid Bus

Innovation Drive takes a 'plug-and-play' path to a new transit vehicle. —See Page 5

Kraus Back to the U.S.

Winnipeg-based gaseous fuel specialist thinks the time is right for a return to the U.S. market. —See Page 5

AFV Solutions Debuts

Grosco's Phoenix-based AFV Solutions debuts here with a strategy encompassing alternative fuels from propane through CNG, and on up to hydrogen. —See Page 8



Key CARB Nod for the ISX

Westport Innovations can begin selling its big diesel cycle engine that runs mostly on natural gas. —See Page 12

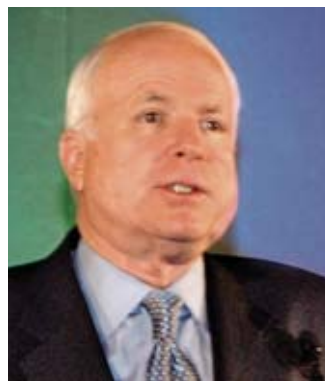
Battery Game-Changer?

Feel Good's got one lined up, maybe. But new NEVs with made-in-France bodies are definite for this year. —See Page 13



No more Ford? Life goes on. SULEV certification earned by BAF Technologies means that Crown Victoria sedans with 4.6 liter engines converted to dedicated CNG operation are eligible for grants offsetting their \$10,000-plus price premium. More than 300 have been sold in California. Celebrating here are BAF sales VP Bill Calvert, president John Bacon, ace NGV salesman Clark Cooper of Wondries Ford in Los Angeles, and Mark Riley and Dave Aasheim of Clean Energy, who hope to provide fuel for more BAF converted vehicles in New York and in Dallas, respectively. —See Page 9

McCain Calls for Alt Fuels Action



"Today's gas prices are nothing less than a call to action to wean ourselves from oil," proclaimed Sen. John McCain (R-Ariz.) at yesterday's opening plenary session here at Clean Cities.

McCain reiterated his support of an increase in CAFE mileage standards as well as his opposition to Arctic drilling and government subsidies for ethanol. E85, he said, can and should stand on its own as a good alternative and supplement to gasoline.

"But ethanol is not the beginning or the end of our solution," the senator said, mentioning other alt fuels like CNG and biomethane and the need to curb emissions that contribute to global warming.

Lamenting his two attempts with Sen. Joe Lieberman to pass cap-and-trade legislation in Washington, he said cities and states are taking the lead.

"If 227 mayors can do it, why can't 100 U.S. senators?"



Steve Ellis of American Honda.

Marathon Man is High on Hydrogen

Schwarzenegger may have put muscle in California's hydrogen effort, but it will take long-distance endurance to make a radical new zero emission (let's not forget that) market happen. Honda's bringing some sweet technology to the fuel cell party too. —See Page 7



Garrett Beauregard (left) and VP Kevin Morrow of eTec with one of the Chevy trucks they're converting to hydrogen for Canada's IWHUP. They've got a new deal to develop a heavy-duty hydrogen-CNG blending dispenser with Clean Energy too. —See Page 14



CONVENTION & TRADESHOW NEWS

Clean Cities Tuesday Schedule — Page 15

Natural gas vehicles work — and work well.



Super Shuttle



Mesa Transit



Waste Management



Yellow Cab

View these Success Stories at cleanenergyfuels.com.



REAL NGV USERS. REAL REASONS.

To find out more, call us at Clean Energy, North America's leader in clean transportation: 562.493.2804

SHOWTIMES

Publisher

Kirk Fetzler
Kirk@CTNPublishing.com

Editor

Rich Piellisch
Rich@CTNPublishing.com

Contributing Writer

Jamie Knapp

Photographer

Mel Lindstrom

ShowTimes at Clean Cities 2006

Phoenix Civic Plaza, Phoenix Rm 15
(415) 305-9050

Printed by:

O'Neil Printing, Phoenix, Ariz.

ShowTimes is published live at Clean Cities 2006
Conference by Convention & Tradeshow News.
Advertising Department: (415) 979-1414
Editorial Department: (415) 896-5988
www.CTNPublishing.com



CONVENTION & TRADESHOW NEWS

© Copyright 2006 by Convention & Tradeshow News.
All rights reserved. Material in this publication may not
be reproduced in any form without permission.
Reprints available upon request.

Fleet Day, and Tonight We're Still Cruisin'

Dear Clean Cities Attendee,

Today, May 9, is "Fleet Day" at the Congress. Thanks to a hefty sponsorship from Arizona based AFV Solutions, the Alternative Fuel Vehicle Institute (AFVI) extensively researched and then targeted fleets who we thought our industry partners would like as customers. As a result, our first annual "Focus on Fleets" effort has resulted in a 600% increase in fleet attendance over any previous year.

Why does it matter? As the alternative fuel market matures, we have the luxury of focusing on sales vs. policy. The convergence of sky high oil prices and the passage of the 2005 Energy Bill mean the vehicles, fuels and technologies that are available, are also competitive in the marketplace. Several of today's sessions, in fact, focus on the many areas where we can make a viable business case for alternative fuels.

An array of alternative fuels and vehicles will coexist in the marketplace into the foreseeable future and it's often confusing. What is the truth about the energy con-



Annalloyd Thomason

tent of ethanol? How is the biodiesel industry working to guarantee that standards are being met? How robust is the market for small volume manufacturers and is that a new pathway? Are there new breakthroughs in fueling infrastructure for natural gas? When will fuel cell vehicles and plug-in hybrids be in the marketplace? Understanding vehicle availability and fueling infrastructure is critical for sound decision-making. All of this can be found as part of fleet day.

As you attend sessions and participate in the ride-and-drive this afternoon, you'll see fleet representatives from the U.S. Marines and Air Force, utilities, airports, healthcare, the food industry, taxis, transit agencies, school districts, retailers, and national parks. You'll also see people from government, industry, Clean Cities coordinators, and service providers who are all here to help fuel economic solutions through the use of alternative fuels and advanced technologies.

On a lighter note, we have evidence that hard working fleet professionals can also play. Tonight, John Deere

and PG&E present an unforgettable closing reception featuring one of our own. Bill Ball is the Transportation Director for the Tucson Unified School District and is a big fan of alternative fuels. He still found time to form "Still Cruisin," the top Classic Rock band in the southern Arizona convention circuit. His band has opened for Three Dog Night, Paul Revere and the Raiders, The Turtles, and The Grass Roots. Big fans of Alice Cooper, Still Cruisin is our headliner entertainment tonight at Coopers'town. Rumor has it that he has penned and will debut what is destined to become an alternative fuel rock 'n roll hit song.

Don't miss it!

Sincerely,
Annalloyd Thomason
Executive Director, AFVI

Meet Dennis Smith—the Man with a Plan

Dennis Smith has only been acting manager of National Clean Cities for a month, but he he's forming a master plan and excited about the future.

"A lot of people think this stuff is new, but we've been doing it since 1993. The timing [for alt fuels] is better than ever," he told *ShowTimes* yesterday.

Smith was active in the first

Clean Cities coalition, Atlanta, before joining DoE seven years ago, so he knows the industry and its stakeholders.

He also understands the multiple technologies, beyond alt fuels, under development in FreedomCar's fuels group, where Clean Cities is now housed. Technology deployment and communications are Clean Cities' primary roles.

Smith plans to establish a coordinators council of 12—two coordinators from each Clean Cities region—to better represent the diverse views and needs of the now 90 coalitions nationwide.

Coordinators won kudos at yesterday's luncheon. Linda Urata, San Joaquin Clean Cities Coalition, won the 2006 Coordinator Leadership Award.

Kellie Walsh of the Central Indiana Clean Cities Alliance won the 2005 Coordinator Choice Award and Jonathan Overly of the East Tennessee Clean Fuels Coalition won the 2006 Coordinator of the Year Award.

Kimberly Taylor with AFVI won a special Clean Cities Lifetime Achievement Award. She's already working on next year's meeting... Come to the John Deere-Pacific Gas & Electric closing reception tonight and learn where it will be!



Dennis Smith is acting manager of Clean Cities.

**3RD NATIONAL
ALTERNATIVE FUEL VEHICLE ODYSSEY DAY**

**OCTOBER 12, 2006
National Alternative Fuels
Training Consortium
BOOTH 317**



The Spallinos aren't just the first fuel-cell family on their block. They're the first in the world.

The innovative hydrogen-powered FCX from Honda, the most advanced fuel-cell vehicle on the planet, has a new home. The Spallino family of Southern California is the first retail customer able to lease the FCX and put it through the most rigorous "testing" of all – everyday driving.

They will use it to commute to work, run errands, pick up the kids at school, go for Sunday drives and make history.

Amazingly, the only by-product of the FCX is a little water. Imagine a world with cars that don't run on oil and don't pollute. With the help of the Spallino family today, Honda is on its way to helping assure blue skies for all of us tomorrow.

HONDA
The Power of Dreams

The Honda FCX is the first and only hydrogen vehicle to be certified by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) for commercial use. The FCX is not currently available for general retail purchase. © 2005 American Honda Motor Co., Inc. honda.com

SNAPSHOTS

Eco Fuel's EDI Wins New EPA Nods

Canada's Eco Fuel Systems (**Booth 519**) has new U.S. EPA approvals for its Eco Digital Injection technology for converting model year 2006 GM vans to CNG operation. The new Certificates of Conformity cover Chevy Express and



GMC Savannah series 1500, 2500 and 3500 passenger and cargo vans with 4.8- or 6.0-liter engines, and comes in addition to other EDI approvals for both Ford and GM vehicles. EDI is described as a

sequential injection control technology "for the demanding needs of the North American conversion aftermarket." It offers seamless, reliable operation and integration into existing advanced onboard diagnostic (OBD II) systems, Eco says. Ongoing remote support for the EDI is conducted via a proprietary SmartCable PC link or remotely via GlobeLink modem-based dial-up.

Gannett Fleming for Key M&E

Founded in 1915 and with 55 offices nationwide, Gannett Fleming (**Booth 322**) is here promoting its alt fuel maintenance facility engineering services. The firm has "gained significant experience in the design of new facilities to accommodate alternative fuels and the conversion of existing facilities." Among the firm's alt fuel facilities clients are Albuquerque, Las Vegas, Queens, Baltimore, Cleveland and Los Angeles.

Krohne for Coriolis

Krohne (**Booth 422**) is promoting two variants of its Optigas 5050C flow meters for the accurate measurement of fuel in CNG dispensers via Coriolis technology. The Optigas 5050C S15 is designed for flow rates of up to 50 kilograms per minute and the S25 for flow rates of up to 120 kilograms per minute. The compact Optigas units employ transducer-mounted sensors and are designed for compatibility with other dispenser electronics. They are also designed with a slim profile for ease of installation. Each unit is individually wet-calibrated (see photo) and all conform to both the European Pressure Equipment Directive as well as the ASME requirements for the U.S. market.



Xebec Can Dry Your Gas



Xebec is in from Quebec (**Booth 615**) promoting a line of regenerative desiccant dryers for natural gas vehicle fueling installations. The firm says it has supplied more than 600 gas dryers for NGV fueling, primarily in North America and the Far East. The firm also makes gas filters.



'It's been needed for a long time,' Carla Fleming says of fuel-versatile vehicle.

New Multi-Fuel Hybrid Bus

Virginia's Innovation Drive is promoting an all-new, composite-bodied lightweight hybrid electric bus by Colorado's Mobile Energy Solutions.

The 37-foot low-floor vehicle is designed for full "plug-and-play" operation and construction, says Innovation Drive CEO Carla York, with easily substitutable components that allow for fuel cell and internal combustion engine variants, with latter capable of using propane, CNG, or hydrogen fuels, or diesel/biodiesel.

Team members have experience with Ebus and with Transteg, which designed and built the three dozen CNG hybrid buses that continue to ply the Denver mall, as well as with the composite ATTB bus program at Northrop Grumman.

Partners include Hydrogenics for fuel cells and Connecticut's Avalence, which has an electrolysis method of producing hydrogen that yields fuel at high pressure—there is no need to compress it.

Developers have striven to use "best of breed" technologies "to accommodate both the transit operator from an operations and maintenance position and to be very appealing to the riding public," York told *ShowTimes*.

"It's something that's been needed for a long time."

One thing that might be appreciated by visitors here this week: plans include for installation of WiFi hardware so that every bus will be an internet hot spot for the convenience of riders.

Innovation Drive is at **Booth 307**.

Kraus Plans Return to U.S. Market

Canada's Kraus Global (**Booth 819**) will soon unveil a hydrogen compression refueling module that combines a diaphragm compressor, storage, gas management and electrical controls in a compact, weatherproof enclosure.

The module will offer fuel throughputs suitable for industrial forklifts, buses, and demonstration vehicles, says Chris Damiani, business and product development manager for the Winnipeg-based firm.

Kraus' main business is CNG and LPG compressor packages and dispensing equipment using proprietary valve and control head parts.

Damiani says 70% of his business is overseas, but that he's looking to build

business stateside thanks to new federal incentives for alt fuel infrastructure. "Now is a good time to take advantage of the incentives and build our customer business," Damiani told *ShowTimes*.

Kraus claims more than 3,000 CNG or LPG dispensers in operation with major installations in China, Egypt, Turkey, Germany, Mexico, Korea and Chile.

Kraus claims the first CNG bus stations in Mexico, a comprehensive LPG refueling infrastructure in Turkey, the world's first retail-style hydrogen dispensers (in Munich), and an innovative "mother-daughter" CNG infrastructure in Beijing.

Lincoln's Launching a Huge New Cylinder

Lincoln Composites is designing a large cylinder for bulk hauling and storage of CNG and hydrogen—so large that Lincoln is looking to dou-

ble its Nebraska manufacturing space and is lining up additional supplies of carbon fiber.

Investment is \$2.5 million.

The new tank will measure approximately 1.08 meters in diameter by 11.5 meters length, or more than 42.5 inches by nearly 38 feet. Internal volume will be about 8,700 liters. The Type IV all-composite design with high-density polyethylene liner and carbon fiber overwrap is said to yield a tank weighing some 60% less than a comparably sized metal unit.

CNG and hydrogen variants are being designed for service pressures of 250 bar (3,600 psi) and 350 bar (5,000 psi).

Each of the big cylinders is expected to consume from one-half to a full metric ton of carbon (depending on pressure). Annual requirements will approach 300 metric tons. Also taking Lincoln be-

yond the basic business of CNG tanks are 10,000-psi hydrogen cylinders to Vancouver's General Hydrogen for fuel cell forklifts, and accumulator shells to Parker Hannifin (Booth 826) for series hydraulic hybrid refuse trucks by Autocar (the former Volvo Truck) in the U.S.

Since last year Lincoln has been a unit of Norway's Hexagon, which also owns Raufoss. Raufoss said at the European Natural Gas Vehicle Association meeting in Brussels late last month that it's designing new Type IV CNG tanks for a major, as yet undisclosed European automaker.

They are to be manufactured by the thousands on an automated line operated by sister company Raugasco.

Other CNG cylinder manufacturers here this week include Struc-



Lincoln's Brock Henderson

tural Composites Industries, a unit of Harsco GasServ (Booth 627), Luxfer Gas Cylinders (Booth 728), and Canada's Dynetek Industries (Booth 712).

We Missed One!

Yesterday we omitted GreenField Compression from the list of companies that are here this week but that also made the trek and displayed at the European Natural Gas Vehicle Association's annual meeting in Brussels late last month.

For GreenField it was perhaps less of a trek: the former Sulzer, which specializes in high-pressure gases, including CNG, is headquartered in Switzerland.

Sales VP Dave Pearce is based in Richardson, Texas.

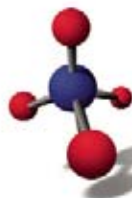
GreenField does business too in Australia and South America.

Booth 823 here.



Applied LNG Technologies USA, LLC is the best natural gas alternative fuel solution provider as measured by our customers, suppliers, employees, owners, and communities in which we work. We are the *reliable* natural gas solutions provider.

Training & Consulting
LNG Vaporization Modules
LNG Transportation & Delivery



LNG Supply
LNG Storage Tanks
LNG / CNG Vehicle Fuel Stations

www.altlngusa.com

Rags to Riches, It's Official

Boone Pickens, majority shareholder and chairman emeritus of Clean Energy Fuels, was named late last year as one of nine winners of the 2006 Horatio Alger Award.

"Boone Pickens provides a modern day example that hard work, perseverance, and integrity are the cornerstones upon which success in our great nation and the realization of the American dream are built," said Dennis Washington, president and CEO of the Horatio Alger Association of Distinguished Americans.



Boone Pickens

The Alger organization antes more than \$5 million per year for need-based college scholarships for high school seniors "who have proven their ability to overcome adversity."

Pickens joins previous Horatio Alger winners including Senator Bob Dole, boxer George Foreman, the Rev. Billy Graham, former Secretary of State Colin L. Powell and Oprah Winfrey.

CENTER STAGE

Honda's in for the Long Haul to Hydrogen

Steve Ellis
Manager, Fuel Cell Vehicle Marketing
American Honda (Booths 200 & 818)

It's like running a marathon, says Steve Ellis of American Honda (who should know, as he's run several). Establishing hydrogen as a viable alternative fuel requires stamina and patience, and the ability to maintain long periods of continued effort with the end still far away. It requires know-



Steve Ellis in the fuel cell FCX here at Clean Cities.

ing when to pace yourself and when to bust a seam. It requires technical and psychological prowess.

Honda's hydrogen marathon has included the happy cultivation of a Los Angeles family, the



Miles CEO David Hirsch

Miles Wants Dealers

Dealers wanted: Miles Automotive Group (Booth 308) is trolling for dealers here at Clean Cities and at auto shows across the country for its Chinese-made battery-electric vehicles. Here now and available for immediate delivery is the ZX40 low-speed EV. Coming this fall is the ZX70 off-road. And promised for late 2007 is the XS200, a full-function EV powered by lithium-ion batteries with a top speed of 80 mph and 200-mile range. The XS200 is currently undergoing FMVSS crash tests on the chassis. China's Tianjin supplies the ZX40's lead-acid battery and charger, which is both 110-volt and 220-volt compatible.

Spallinos, as the world's first fuel cell family and, on the technical side, hard-nosed development of a better fuel cell stack and advanced hydrogen storage materials, making for "more power in less space."

Honda cited significant technical advantages at the North American International Auto Show in Detroit earlier this year, and vowed there to commence production of its FCX fuel cell vehicle, in Japan in three to four years.

The vehicle will employ a new V Flow fuel cell with a vertical cell arrangement that takes full advantage of gravity to more efficiently discharge water formed during electricity generation, yielding 100 kilowatts of power in a sleek package. A new, as-yet unspecified hydrogen storage medium ("We never said it was metal hydrides," says Ellis) is said to double onboard fuel-carrying capacity, allowing a single-fill vehicle range of 350 miles with a 5,000-psi tank—relatively low pressure for hydrogen. The vehicle is to have an 80-kilowatt motor in front and two 25-kilowatt motors in the rear.

"The premium fuel cell sedan offers the ultimate in clean-running performance, and represents Honda's vision of future mobility in which vehicles are less dependent on fossil fuels and produce no significant emissions," the company says.



The Honda FCX of the future... today's is in the lobby here this week.

"Honda's FCX Concept defines a new stage in the evolution of fuel cell vehicle technology. The FCX Concept is designed with a low center of gravity and a full-sized cabin, offering the kind of driving pleasure and roomy interior previously unimaginable in a fuel cell vehicle.

The FCX Concept is designed with a short front end to make the most of its unique low-floor platform, creating a comfortably large cabin. A tapered cabin profile and accentuated fender flare create an attractively dynamic look."

That's serious stuff. The Spallinos (who, incidentally, first drove a dedicated-CNG Honda Civic GX, and thus exemplify Honda's "hydrogen apprentice" concept) are more fun, and have generated serious media interest in hydrogen as a future fuel that's eking out a role in the present.

Honda's strategy has made for the kind of publicity you can't buy, as the Spallinos have been featured and Ellis interviewed by media outlets including *Automotive News* and *The New York Times*, as well as CNN, NPR, CBS, CNBC, Bloomberg, and the Discovery Channel.

Parker for Filters and Tires

Clean Cities veteran Parker-Hannifin (Booth 826) is showing a line of advanced filters, and nitrogen generators for a variety of applications, including tire inflation.

Parker's gas filters are suitable for natural gas fueling installations and for onboard NGV use. Parker's filters are sold under the Finite brand name.

The company's filter unit is in Oxford, Mich.

Nitrogen tire inflation, Parker says, helps maintain correct tire pressure, improving both vehicle performance and tire longevity. That's because oxygen can penetrate a tire causing pres-



Parker H Series filters

sure to drop and can react with rubber, resulting in premature aging.

Parker's nitrogen generators are sold under the Ballston TireSaver tradename. The company's Ballston unit is in Haverhill, Mass.

Parker's hydraulic accumulator division in Rockford, Ill. supplies "RunWise" hybrid drive components for a new hydraulic hybrid refuse truck, the E3, unveiled early last month

by Indiana's Autocar.

Parker uses pressure vessels from Lincoln Composites (Booth 821) for the Autocar hybrid, for which fuel savings of 50% are projected.

CENTER STAGE

AFV Solutions of Phoenix Vaults into Market

Jeff Grosco
President & CEO
AFV Solutions (Booth 301)

AFV Solutions, Inc., the Arizona start-up headed by former state legislator Jeff Grosco, is beginning its business life with gasoline-propane bi-fuel vehicle conversions—for which it sees an immediate market—as it moves forward with ambitious plans for CNG and hybrid and battery electric vehicles, all the way up the alt fuel line to hydrogen.



Jeff Grosco

AFVS late last year ended an SEC-mandated silent period from which it emerged as a new public company (OTBB:AFVS). The firm now holds EPA certification of propane bi-fuel conversions of model year 2003-2005 Ford vehicles with 4.6-liter engines. “We chose this Ford engine

family for our initial system because the 4.6 liter-equipped Crown Victoria is the fleet vehicle of choice,” Grosco says. He is AFVS president and CEO.

“The market is prime,” he says. Not only are there fleet mandates and a general need to do something about oil imports, there is a “new paradigm,” he says, of conventional fuel prices that are becoming unacceptable.

Fleet operators, Grosco says, are now faced with “a dollar and cents case. It actually makes sense for them to look at alternative fuels.”

“Fleet operators that retrofit with our system and purchase bulk propane can substantially reduce their fuel costs, often by up to 40%, while increasing their vehicles’ longevity and reducing maintenance costs... We can show them amazing monetary savings.”

Grosco says he used to be a CNG man, with a vision of getting “an alt fuel vehicle into everybody’s garage.” Now he sees propane for fleets as the way to go. Propane prices haven’t spiked like gasoline’s, conversions cost less, and



Hybrid bus for AFVS being loaded at Guangzhou. It’s due to arrive in Los Angeles on May 13.

operators enjoy better vehicle range.

AFVS won’t stop with propane, Grosco says, but will tackle dedicated-CNG conversions too, likely beginning with later-model Ford engines. “It’s our belief that if we can certify a bi-fuel propane we can certify anything.” He claims an edge in an OBD II-compliant microprocessor, and says that while he’s in negotiations now with various suppliers for other conversion hardware, “the processor is going to be ours no matter what.”

The AFVS strategy is in line with trends in the alternative fuel sector. Propane has advantages now, Grosco says, and natural gas will begin to look better as pipeline capacity improves and more gas is made available.

AFVS is looking to the far future too—the firm’s not limiting itself to conversions. “We are trying to position ourselves as a diversified alternative energy company,” Grosco says. He promises announcements in the coming months regarding projects as wide-ranging as ethanol production and onboard hydrogen generation for vehicles.

Grosco is promoting a Chinese-made bus, available as a propane or natural gas vehicle, or as a hybrid—for which AFVS claims marketing rights for five countries including the U.S., Mexico and India. The rights are based on an agreement with China’s Wu Zhou Long Motors disclosed early last month. Wu Zhou Long has ISO 9001 certification, AFVS reports. AFVS says it anticipates making the buses available immediately outside the U.S. and has begun the process with U.S. agencies to get clearance to begin importing.

The Wu Zhou Long hybrid drivetrain is said to improve fuel efficiency by some 30%. The first bus is to arrive in Los Angeles next week.

COMPRESSOR PACKAGES AND DRYERS FOR NGV REFUELING

BAUER
COMPRESSORS

5 – 161 SCFM
3000 – 5000 PSI

Visit our Booth #622
at the CNG Pavilion
during Clean Cities Expo



BAUER COMPRESSORS Inc.

1328 Azalea Garden Road • Norfolk, Virginia 23502-1944
Phone: (757) 855-6006 • Fax: (757) 857-1041 • sls@bauercomp.com • www.bauercomp.com

BAF Technologies Picks Up Where Ford Left Off

Why is this man smiling?

He's Bill Calvert, VP of BAF Technologies, and he says "We've proven to everyone that the aftermarket can do it." What the aftermarket can do is pick up where the OEMs left off, specifically Ford, which dropped out of natural gas vehicles, leaving taxi operators and others who are now fast becoming eligible for major incentives without the Crown Victoria (and Lincoln Town Car) sedans they'd been counting on.



Bill Calvert

BAF (Booth 818) got its formal, final California Air Resources Board certification last month for model year 2006 Fords with 4.6-liter engines. CARB's qualified them as super ultra low emission vehicles—SULEVs. They are deemed to be Tier 2, bin 2 vehicles by the U.S. EPA.

With the CARB certification, support from agencies including the South Coast Air Quality Management District is spurring sales of Crown Vics converted to dedicated CNG operation.

"I have firm orders for 129 vehicles, taxis in California," Calvert says. Another 200 or 225 are pending.

BAF has laid in hardware for converting upwards of 300 Vics, having bought Ford's inventory of Type II CNG cylinders made by Pressed Steel Tank, augmented

by additional units from Luxfer.

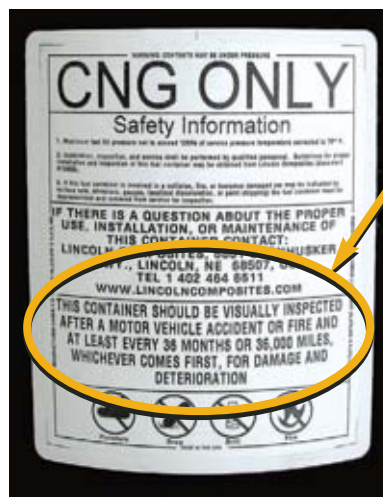
The biggest single customer appears to be Anaheim Yellow Cab, which has ordered 65 vehicles from Wondries Ford (see item below left). Wondries' Clark Cooper says they'll operate largely out of the John Wayne/Orange County airport.

"I have 130 sold," says proprietor Ray Simmons of Crenshaw Ford. He's got 85 vehicles coming from BAF and says he hopes to find low-mileage used 2006 gasoline sedans that can be converted to CNG by BAF.

Helping make all the business possible is SCAQMD money to offset the \$10,200 (or \$10,900 for extended range) BAF conversion package. South Coast has allocated an additional \$1.5 million in incentive funding, bringing the 2006 total to \$2.7 million, enough to cover up to 136 vehicles, according to the California NGV Coalition. "But it's well short of what's needed to fund the 450 taxis Los Angeles dealers say they can sell," Cal NGVC says—it's pushing for funding of \$10 million. Cal NGVC is at.

A SAFETY AWARENESS MESSAGE FOR NATURAL GAS VEHICLE OPERATORS

HAVE YOUR CNG CYLINDERS BEEN PROPERLY INSPECTED?



Did you know that a visual inspection should be performed every 36 months or 36,000 miles?

Vehicles that run on Compressed Natural Gas (CNG) should have their fuel systems checked periodically by a qualified inspector. In fact, federal DOT regulations require that all CNG cylinder labels include the notice highlighted above.

A qualified inspector is trained to look for cuts, abrasions, abnormal wear and other damage or deterioration that may compromise the continued safe operation of a CNG fuel system, and recommend corrective action.

To locate a qualified inspector in your area or to learn more about how you can become a trained and certified inspector, contact the Clean Vehicle Education Foundation (CVEF) at <http://www.cleanvehicle.org/technology/cylinder.shtml>. You may qualify for training and certification testing scholarship funds available through a US DOE-underwritten program administered by CVEF.



For more information, visit our website or contact Hank Seiff (hseiff@cleanvehicle.org).

www.cleanvehicle.org



Wondries' two Clark Coopers flank Kimberly Driedger.

Wondries Has the Cars

Wondries Ford is in from Los Angeles promoting an inventory of natural gas vehicles: 85 dedicated-CNG year 2004 F-150 Ford pickups (bought when Ford dropped out of the market) as well as some of the last 2006 CNG pickups from General Motors (they're being discontinued after this year).

Wondries Clark Cooper, said to be the most prolific NGV salesman in North America, is on hand, now promoting aftermarket Crown Victoria sedans converted to CNG by BAF Technologies. He's handling the sale to Anaheim Yellow Cab (see story above) and has a modest inventory, as well.

IdleAire Enjoys Boomtimes in Idle Reduction

"We are building like crazy," says John Doty, who handles marketing for IdleAire Technologies. The Tennessee company claims to have installed its Advanced Truckstop Electrification (ATE) system at two dozen locations in 11 states, and to have an additional 210 locations under construction in 35 states.

IdleAire (Booth 315) offers a way for truckers to reduce idling and save money, spelling a win-win combination, especially in a time of relentlessly rising fuel prices and concern about diesel pollution.

If all U.S. trucks used the IdleAire system, 4.4 billion gallons of fuel could be saved, the company says. That's unlikely, but just one truck using the system consistently for one year can save 3,366 gallons of fuel—which is why IdleAire can claim agreements for drivers' use of the IdleAire system from more than 1,500 fleets in the U.S. and Canada.

IdleAire installs and operates its ATE system with no cost to the property owner, and indeed "creates a new revenue stream for the

parking lot owner."

Truckers need invest no more than \$10 for a window adapter, allowing use of the IdleAire service. Warm—or cool—air is ducted into the truck cabin under full driver control (65 to 85 degrees). The IdleAire panel also includes a computer display for Internet access (for news and entertainment as well as trucker training) with USB ports for control devices; power for electrical appliances, satellite TV and telephone hookups, and a night light.

Service charges are incurred for one minimum hour, afterward by the minute. Truckers begin saving immediately via reductions in fuel use and engine wear, emissions are eliminated for the time the truck is stopped, and driver rest is improved.

IdleAire lined up \$320 million in financing earlier this year and has awarded a \$65 million contract to Eaton for Power Truss brand power supplies for some 13,200 additional truck stop spaces.

"With escalating fuel costs, tightening emissions requirements and



All the comforts of a country home... including IdleAire's own in-cab Trucking Entertainment Network, which includes an IdleAire-developed television channel dubbed TENCountry that delivers country music videos and other entertainment to drivers when connected to the IdleAire system.

highway safety issues, our partnership with IdleAire yields an immediate and long-term solution to the trucking industry that addresses air quality, fuel conservation and training issues," said Eaton electrical group president Randy Carson. "We're thrilled to contribute to an advancement that substantially improves the quality of life for our nation's truck drivers as

they transport more than 80% of our nation's goods."

IdleAire late last year signed country crooner Trace Adkins as its spokesman. "We anticipate that he will provide invaluable assistance in the company's marketing efforts as we pursue our aggressive growth plan over the next 15 months," said IdleAire CEO Mike Crabtree.

NEW IDLEAIRE LOCATIONS

	START	COMPLETION	# SPACES
Ontario (west)	3/20/2006	5/15/2006	93
Cartersville, GA	3/20/2006	5/1/2006	72
North Little Rock, AR	3/27/2006	5/8/2006	78
Atlanta (expansion)	4/3/2006	5/1/2006	33
Coachella, CA	4/3/2006	5/15/2006	72
Atlanta, GA (Jackson)	4/10/2006	5/22/2006	63
Spartanburg, SC	4/10/2006	5/29/2006	60
Carlisle, PA	4/17/2006	6/19/2006	72
Amarillo, TX	4/24/2006	6/5/2006	81
Wheeler Ridge, CA	4/24/2006	6/19/2006	66
Glade Spring, VA	5/1/2006	6/12/2006	90
Prescott, AR	5/1/2006	6/12/2006	75
Weatherford, TX	5/1/2006	6/12/2006	57
Greencastle, PA	5/1/2006	6/12/2006	87
Wildwood, FL	5/8/2006	6/19/2006	69
Hammond, LA	5/8/2006	6/19/2006	72
Jessup, MD	5/8/2006	7/3/2006	129
Milan, NM	5/15/2006	6/26/2006	78
Knoxville, TN	5/15/2006	6/26/2006	51
Shreveport, LA	5/15/2006	6/26/2006	72
Baytown, TX	5/15/2006	6/26/2006	51
Harborcreek, PA	5/15/2006	6/26/2006	72
Eloy, AZ	5/22/2006	7/10/2006	72
Nashville, TN	5/22/2006	7/10/2006	69
Jackson, MS	5/22/2006	7/10/2006	60
Orange, TX	5/22/2006	7/10/2006	66
Frystown, PA	5/22/2006	7/10/2006	72
Eloy, AZ	5/29/2006	7/17/2006	63
Hurricane Mills	5/29/2006	7/17/2006	60
Meridian, MS	5/29/2006	7/17/2006	51
Beaumont, TX	5/29/2006	7/17/2006	60
Breezewood, PA	5/29/2006	7/17/2006	78

Biodiesel Industries Has a Patent for Modular, Scalable Production

Biodiesel Industries has received a patent for its MPUs: modular production units, for biodiesel.

U.S. Patent 6,979,426 covers "production of biodiesel fuel using a modular production unit incorporated onto a single platform for ease of installation and relocating," the firm says, "as well as several particular aspects of the design for col-

to use locally available and inexpensive materials to make biodiesel at a reasonable price," the company says.

Full blueprints and permitting assistance is provided.

A standard MPU can turn out as much as 3 million gallons of biodiesel per year.

Santa Barbara-based Biodiesel Industries is a major provider to the U.S. Navy, and supplied the hardware for a plant in Denton, Texas, that uses landfill methane for its process energy needs. The firm is also researching new agricultural



It takes a big truck, but it is portable.

sources of feedstock oils, including recycled cooking oils, animal fats, and virgin vegetable oils.

"This flexibility allows processors

tural sources of feedstock oils, including a plant known as jatropha via a joint venture with India's Labland Biotech. Biodiesel Industries is at Booth 606.

GM, Daimler and BMW for Versatile Hybrid Drive

Clean Cities exhibitors General Motors and DaimlerChrysler promoted their new, "avant-garde" hybrid vehicle technology with BMW late last month in Vienna, and said it would be applicable to numerous vehicle sizes and classes.

The 2-mode hybrid is said to represent "a major automotive industry milestone due to the unprecedented fully integrated combination of electric motors with a fixed-gear transmission." It maximizes the transmis-

sion of power through four different fixed gear mechanical paths in combination with an ECVT (electric continuously variable transmission) mode, with an electronic control module that "constantly optimizes the entire hybrid powertrain system to select the most efficient operation point for the power level demanded by the driver." The result is significantly better fuel economy, and lower vehicle emissions.

The new hybrid design is said to be scalable to a wide range of vehicle sizes. "Full hybrid systems are under development for front- and rear-wheel-drive passenger cars, and light-duty truck and SUV applications," the three automakers said. A Chevy Tahoe with the 2-mode drive, which is slated to go on sale in 2008, is on display here at GM's Booth 500.

Automakers stress 'Global Hybrid Cooperation' on the Two-Mode System. Execs promoting the technology are Andreas Truckenbrodt of DaimlerChrysler, Larry Nitz of GM, and Dr. Wolfgang Epple of BMW.



Propane Mows On

"The world's fastest lawnmower" is now available on propane as Indiana's Dixie Chopper and Generac Power Systems of Waukesha, Wisc. have teamed to fit the machine with a 30-horsepower, 999cc vertical shaft air-cooled GAP engine—GAP for gaseous alternative power. "In terms of off-road emissions, lawnmowers are huge offenders," says the Propane Education & Research Council, which is showing the Dixie Chopper here (Booth 512).

RISE ABOVE WITH A PHOENIX™



EMISSIONSOLUTIONSINC
TOMORROW'S TECHNOLOGY TODAY

PHOENIX NG 7.6L

- New OEM Engine with Full 2 Year Warranty
- 5 Year Emissions Warranty
- Meets **2009** EPA/CARB Emission Mandates
- Proactive Compliance
- 5+ Years Added Reliability
- No Idling Required
- Drivers Breathe Clean Emissions
- Community Friendly
- Improved Fleet Productivity

972-369-0099

EMISSIONSOLUTIONSINC.COM

Boshart Arrives for the Ride-and-Drive

Fleet durability and certification testing specialist Boshart Engineering (Booth 110) is stepping into the EV conversion business, bringing Korean and Chinese-manufactured light-duty personnel and heavy-duty payload vehicles for off-road use to the States.

Initial target market: fleets at the ports of Long Beach and Los Angeles, followed by other off-road campus and industrial settings where emission reductions are growing issues.

A late-comer to the Clean Cities conference,



Boshart chassis are made in Asia.

you won't find Boshart Electric Vehicles in the program. But you will find both trucks at today's ride-and-drive, along with about 20 other CNG, fuel cell, hybrid, E85, and propane vehicles from Baytech, Campbell-Parnell, eTec, Feel Good Cars, GEM, GM Alt Fuels, Honda, Jasper/Prins, Miles Automotive Group, NEVC and Toyota.

"These are real workhorse trucks," says Boshart's Chip Doeden, who says the gasoline versions are among the most popular on-road vehicles in China.

California ZEV Mandate? Very Much Alive

The California Air Resources Board is taking stock of its groundbreaking zero-emission vehicle regulation—the ZEV mandate. CARB has established an independent expert review panel and is planning a tech symposium this fall to review the status of ZEV technologies and the prospects for near-term and long-term improvement.

The six-member expert panel is led by noted automotive expert Michael Walsh, a mechanical engineer who has worked on motor vehicle pollution control issues at the local, national and international level. The September 25-27 Tech

Symposium will feature invited presentations on near- and mid-term technologies, on such topics as fuel cell and hydrogen storage, electric drive systems, battery advances, plug-in hybrids, and vehicle platform and integration issues.

The review follows CARB's direction, after its 2003 regulatory hearings, to establish the independent panel and conduct periodic technology reviews. Staff will prepare a report to the board this fall. If, after reviewing the technology, staff recommended the board consider regulatory changes, new proceedings would begin next year.

Westport's HPDI-Modified ISX, Alloy Custom Tank

That big Clean Energy LNG tanker on the side of the exhibit hall has a brand new trailer from Indiana's Alloy Custom Products and a just-certified engine, the 15-liter ISX,

0.02 grams of particulates per brake horsepower hour. The diesel ISX with exhaust gas recirculation is certified at 2.5 grams of NOx.

The engine is being promoted for 2006 for selected fleets of LNG-fueled over-the-road trucks. The HPDI installation has been improved over earlier rigs with the addition of EGR, and with proprietary LNG tanks with integrated

pumps for pressurizing the fuel to required HPDI levels.

Alloy (Booth 900) is promoting a line of trailers, truck mounts and rail cars, as well as stationary cryogenic tanks allowing storage of 50 to 80,000 gallons of liquefied natural gas.

"Each transporter is configured to meet all of your speci-

fications and provide reduced annual ownership costs," the firm says.

"Customers tell us they have reduced ownership costs compared to other manufacturers' transport equipment."

"We're the largest LNG transporter manufacturer in the United States," says proprietor Louis Blum. "We build more than anybody."

Alloy says it's turned out more than 130 LNG trailers since 1996.

The company also provides process skids and vacuum jacketed piping systems, repairs cryogenic hardware, and offers in-house painting services.

Alloy holds ASME, DoT, TC341 and other certifications. Liquid hydrogen? "We have the technology and the equipment to do it," Blum says.

"It just hasn't presented itself as a viable opportunity."



Westport's Charlie Ker and Graham Williams

from Westport (Booth 817).

The engine uses Westport's High Pressure Direct Injection technology allowing it to run primarily on natural gas while retaining the fundamental efficiency of the sparkless diesel cycle, also known as compression ignition.

California has certified the ISX to 1.2 grams of NOx and

FuelMaker has been providing innovative, on-site refueling systems for fleets of from 1 to 40 Natural Gas Vehicles for more than 17 years.

FuelMaker systems provide the ultimate in flexibility and expansion. The systems are an inexpensive and reliable way to take advantage of the convenience and benefits of NGVs and on-site natural gas refueling.



Fleet



Public Access



Forklifts



Home Refueling

Now owning an NGV has never been more convenient! With *Phill*, FuelMaker's revolutionary home refueling appliance, you can refuel your vehicle from the comfort and ease of your own home, from your existing natural gas line.

Refuel overnight or whenever your vehicle is not in use.



www.fuelmaker.com
usinfo@fuelmaker.com
Tel. 800-898-3835

Feel Good Lines Up Possible Super Battery

Feel Good Cars (Booth 423) is beginning production of its low speed or neighborhood electric vehicles (LSVs or NEVs).

The Toronto-based company is lining up dealers for deliveries expected to start this summer.

But Feel Good's big news may break later, when the firm is ready to embrace a new type of battery. Feel Good claims a small vehicle exclusive on the device, which promises to be an enabler for all manner of on-road electric vehicles.

The battery, in development by secretive EESstor of Austin, Texas, is described as a ceramic ultracapacitor-type energy storage device, with barium titanate dielectric. The solid-state unit is projected to store up to *ten times* the energy (by weight and volume) of lead acid batteries *at the same cost*. Or, the EESstor device will store from one and a half to two and a half times the energy of lithium ion batteries at just 12% to 25% of their cost. They are also said to be capable of extremely fast charging. They could start being placed on Feel Good vehicles next year.

Feel Good has made a down payment of some \$2.5 million to EESstor to lock in its exclusive on



Leading the march on First Street at right is Feel Good president Brian Cott, followed by business advancement VP Graham Hill and sales VP Bill Williams.

EESstor batteries for small vehicles.

Feel Good plans to begin installing electric drivetrains in MC-1 gliders from France's Microcar at a 40,000-square-foot facility it's just leased in St. Jerome, north of Montreal. The firm is hiring personnel now to install the vehicles' General Electric motors and controllers, onboard Delta-Q chargers, and lead acid batteries, from Trojan. Gilles Allard has joined Feel Good as production VP.

Nickel metal hydride and lithium ion batteries are being considered as options after the basic Feel Good drivetrain is engineered to accommodate them.

Feel Good is also putting the finishing touches on its regenerative braking system, as it believes customers prefer a car that "glides" more than most EVs with regen. Feel Good's regen will engage when the brakes are applied, not when the driver lifts his foot off the accelerator.

"From a neighborhood electric vehicle perspective, we are positioning ourselves as the luxury entry," says CEO Ian Clifford.

Feel Good claims its ZENN's to be the world's first luxury EVs, fitted as they are with features like power windows, remote-control key-less door locks, and aluminum wheels.

"We want to get into as many fleet opportunities as we can," Clifford says. "It's better to have one customer with 100 vehicles than 100 customers with one."

Tourist rentals are one target market, and "GSA's going to be really important to us," Clifford says. Feel Good's ZENN cars (for zero emission, no noise) are road legal in 44 states, in Asia, and throughout Europe.

Electrics and Hybrids, and Even an E85 Hybrid

Dallas-based Tiger Truck has been selling a wide range of off-road work vehicles since 1999, boasting nearly all types of body styles, from people-mover to dump truck, and fueling options ranging from straight gasoline to battery electrics.

"Our strong trucks," says VP Mike Felder, "have more fuel choices and body configuration

options than anybody else."

Tiger (Booth 100) recently claimed to be the first manufacturer to win E85 ethanol approval from the U.S. EPA, and to offer an E85 hybrid for sale.

Tiger claims a hybrid electric drive that with a nine-gallon fuel tank yields single-fill range of 550 miles. The vehicles are governed to 25 mpg.



Tom Clark represents Dallas-based Tiger Truck.



Airports are among the target markets for GEM vehicles like this model.

GEMs Can Now Seat Six

Daimler's Global Electric Motorcars (Booth 800) has introduced e6 and e6S six-seater battery EVs.

Fargo-based GEM has stepped up its sales to fleets this year, tackling such markets as port vehicles and airports.

Like GEM's existing two- and four-seat mod-

els, the six-seaters employ lead acid batteries to drive 72-volt, 5-horsepower DC motors. Speed is governed at 25 mph and single charge range is advertised at about 30 miles.

GEM pricing ranges from \$7,745 for the two-seat eS to \$12,995 for the new six-seat e6S.



GEM's new e6

FuelMaker Looks to the Forklift, Tackling the Segment in the U.S.

FuelMaker may be gaining fame for the Phill home fueler, but "our traditional market is fleets," says Mark Smith, Northeast region sales manager. That's why the Toronto-based company (Booth 715) is stepping up its marketing to forklift operators in the U.S., citing economic, workplace safety and emissions advantages.

It's a market that's been a success for FuelMaker in Canada, so it's being taken south, with initial marketing in the Northeast.

On show here is the firm's workhorse FMQ-2-36 model, described as a good starter unit for small fleets as it can fill at about a gallon of gaso-

line equivalent per hour. Forklifts customers usually average about 10 vehicles operating multiple shift, Smith says, so the FMQ-8-36, at four gallons per hour, is more appropriate.



FuelMaker VP Mario Pirraglia and president John Lyon

ALT Looks to Renewable LNG Fuels

Amarillo-based Applied LNG Technologies is shifting its emphasis from pipeline sources of liquefied natural gas to renewable sources.

ALT has teamed with New Hampshire's Environmental Power Corp, and EPC subsidiary Microgy, "to identify, evaluate and develop projects, principally in California, that combine Microgy's anaerobic digestion technology, which extracts methane-rich biogas

from animal waste, and ALT's LNG transport and distribution technology."

ALT late last year was acquired by Dallas-based Apollo Resources. It had previously sold its 100,000-gallon-per-day LNG facility north of Houston to Clean Energy for \$14 million (including tanker trucks and equipment), and said it would concentrate on renewable sources of feedstock rather than pipeline gas.

Who Says Hydrogen's Hard to Find?

Three Clean Cities exhibitors are in the thick of a Canadian project to tap a plentiful supply of hydrogen that's going to waste: surplus H₂ from sodium chlorate manufacturing.

Sodium chlorate is made via electrolysis of brine (salt water), a process that also yields oxygen and hydrogen. Most of the hydrogen is burned now, or even vented as waste. The same is true at chlor-alkali plants that make chlorine and caustic soda.

Enter the Canadian government-supported, \$15.4 million Integrated Waste Hydrogen Utilization Project.

Raw (and wet) hydrogen waste will be collected from a sodium chlorate plant operated by Toronto-based Erco Worldwide, a unit of Calgary's Superior Plus, Inc.

Phoenix-based eTec (Booth 323) is converting eight trucks it's converting

for IWHUP partner Powertech Labs, using fuel cylinders from Dynetek (Booth 712).

The vehicles are modified Chevrolet Silverados with 6.0-liter engines. eTec is fitting them with screw-type Lysholm superchargers with Magnuson intake and intercooler, and adapter (by Roush Industries) to mate the two.

Westport (Booth 817) is supplying engines for transit buses that will run on a hydrogen and CNG mix.

"If all the by-product hydrogen was recovered from the North Vancouver plant," said one project participant, "it could provide fuel to a fleet of up to 20,000 hydrogen-powered vehicles in the Vancouver area, greatly reducing greenhouse gas emissions."

North Vancouver's Sacré-Davey Innovations is IWHUP project leader.

FLEETS & FUELS

Modec Battery EV with Zebra Power

Britain's Modec Vehicles has unveiled a line of battery electric vehicles, initially emphasizing the urban delivery market. Single-charge range will be upwards of 100 miles. Payload is 2 tons. Modec's new truck is exempt from congestion charges and road tax. The vehicle will be available in right- or left-hand drive as a box van or flatbed. It can be fitted as a bus with capacity for 16 seated passengers or six in wheelchairs. It will initially be offered with nickel sodium chloride batteries (Zebra batteries from MES-DEA of Switzerland) and later will be available with lithium ion batteries, Borwick says. Drive-trains are by Britain's Zytek Engineering. Full series production is slated to begin in November at a new Modec factory in Coventry.



Fleets & Fuels, February 27

Maxwell Tailors Its Ultracaps

San Diego-based Maxwell launched some 30 new ultracapacitors designed including high power units for hybrids but applicable to fuel cell and battery electrics as well. "The products are tailored to our specific customers now," said Bobby Maher, director of technical sales. "They can be put into series for high voltage, they can be put into parallel for more power."

Fleets & Fuels, February 27

Switzerland's CNG Prius

A CNG Prius was shown at the recent Geneva Auto Show. The conversion was performed by the Swiss firms Holdigaz and Gznar, and cost some \$5,000. The kit includes two CNG tanks, which take up the spare wheel well under the trunk, and hold 22 liters of gas affording a range of about 150 miles. Greenhouse gas emissions are reduced about 12%.



Fleets & Fuels, April 24

You Too Could Be This Well-Informed

What *Fleets & Fuels* readers know and when they knew it. Always replete with real-world contact information, phones and e-mails for key players. (24 times a year)



Fleets & Fuels

560 Fourth Street
San Francisco, CA 94107

415-896-5988

dispatch@fleetsandfuels.com

www.fleetsandfuels.com

TUESDAY, MAY 9, 2006

CONFERENCE AGENDA

7:00 AM — 5:00 PM REGISTRATION — <i>Lobby One</i>	3:00 PM — 5:30 PM EXPO OVERDRIVE — <i>East Perimeter of Convention Center</i> Use North Door Exit
7:00 AM — 8:00 AM CONTINENTAL BREAKFAST — <i>Hall A</i>	EXPO OVERDRIVE — VENDOR TRACKS
8:00 AM — 9:30 AM GENERAL SESSION — <i>Hall A</i>	3:00 PM — 3:25 PM
A Look at the Energy Bill Public/Private Partnerships Work 2006 Auto Industry Review	Cummins Westport — <i>Flagstaff 1</i> GreenField Compression Inc. — <i>Flagstaff 4</i> Propane Education & Research Council — <i>Prescott 6</i>
10:30 AM — NOON CONCURRENT SESSIONS	3:30 PM — 3:55 PM
1. The Bottom Line: Making a Business Case for AFVs — <i>Flagstaff 1</i> 2. Just the Facts: Dispelling the Myths About Biofuels — <i>Flagstaff 4</i> 3. SmartWay Forward: Truckers Idle No More — <i>Prescott 6</i> 4. Reinventing the Wheels: Light-Duty Product Preview — <i>Prescott 8</i>	General Motors Alternative Fuels — <i>Flagstaff 1</i> National Biodiesel Board — <i>Flagstaff 4</i> AFV Solutions — <i>Prescott 6</i>
1:30 PM — 3:00 PM CONCURRENT SESSIONS	4:00 PM — 4:25 PM
1. Driving Range: Making Fuel Choices That Will Take You Farther — <i>Flagstaff 1</i> 2. Wise Guys: Training Technicians on AFVs and Advanced Technologies — <i>Flagstaff 4</i> 3. Keep on Trucking: Engines that Meet the 2007/2010 EPA Standards — <i>Prescott 6</i> 4. Reinventing the Wheels: Product Preview — <i>Prescott 8</i>	National Ethanol Vehicle Coalition — <i>Flagstaff</i> ICF International — <i>Flagstaff 4</i> Deere Power Systems — <i>Prescott 6</i>
3:00 PM — 4:30 PM CLEAN CITIES INDUSTRY ALLIANCE COORDINATORS MEETING — <i>Prescott 8</i> <i>This meeting is for Clean Cities Coordinators only.</i>	4:30 PM — 4:55 PM
	American Honda — <i>Expo Hall, Exhibit 200</i>
	6:30 PM — CLOSING
	Alice Cooper's town Is a Gas — John Deere and PG&E's Closing Reception <i>Cooper's town, 101 East Jackson Street. Walking distance of the hotel, but for those who prefer Pedicabs, they will be available at the 1st Street entrance of the Phoenix Wyndham lobby.</i>

Visit us at
Clean Cities
Congress
Booth #628!

Setting the standard in
alternative fuels.



FAB Fuel Packs

- Available for CNG, LNG, Hydrogen, Propane, and batteries
- Mounted on roof, behind cab, on frame rails, under body, or over the engine
- Integrates latest high pressure and/or cryogenic pressure regulation and control technologies



After-Market Service Parts

- Manual, Solenoid & PRD Valves
- Complete line of replacement filter elements
- Fueling nozzles and receptacles
- Customized, precision tube bending



FAB Fleet Services

- Fuel system service and fleet upgrades
- On-site or secure off-site production
- Experienced service technicians come to you
- Factory "certified" replacement parts and components
- Every job is done right, when you need it

The one-stop-shop for all your alternative fuel needs!

Paul Mader: 909.350.7500 • PMader@fabind.com
14642 Rancho Vista Drive, Fontana, CA • 5409 Maryland Way, Brentwood, TN
1417 Commerce Blvd, Anniston, AL • 32 Ellis Ave, Newburgh, NY • Campbellville, Ontario, Canada



A booth you can look up to.

GM is proud to support the efforts of the Clean Cities Program. Through innovative thinking, we're constantly working on new ways to reduce emissions. Come see what's new at Booth 500.





The Fab/AFV Fleet Service yard in Fontana, Calif.

AFV Fleet Service Is CC06 Emphasis As Fab Branches Beyond Fuel Systems

AFV Fleet Service, a new unit of Fab Industries, is promoting its new 46,000-square-foot facility in Fontana, Calif., where the company performs engine installations and other heavy-duty vehicle upfits.

The Fontana facility “will enable AFV to continue the manufacturing and installation of CNG, LNG and LPG fuel systems while continuing to grow the fleet, transit and municipal service business they have built their reputation on,” the firm says.

The company is at [Booth 628](#) here.

Fab is best known for its work on buses, notably the installation of compressed and liquefied natural gas fuel systems for operators including Los Angeles Metro and Big Blue Bus in Santa Monica on North American Bus Industries and New Flyer vehicles.

Fab’s 2005 acquisition of AFV Fleet Service has allowed it to expand to engine installations.

Fab/AFV is partnered with Allianz Sweeper and Southern California Gas to produced the first Cummins CNG

powered Freightliner M2. In a demonstration project funded by Pacific Gas & Electric ([Booth 818](#)) and the Monterey Bay Unified Air Pollution Control District (MBUAPCD),

AFV also recently installed the first Emission Solutions, Inc. ([Booth 613](#)) Phoenix NG 7.6L Natural Gas Engine in California. The ESI pilot vehicle is a 2002 International 4400 Dump Truck belonging to the County of Monterey.

The AFV facility in Fontana is across from the California Speedway with amenities including on-site CNG fueling capability, six 60-foot service bays, and a 5,000-square-foot parts room—stocking all types of NGV and fueling hose related service parts including John Deere service components. To go along with the new fabrication department, the company has also opened a state-of-the-art panel and hose assembly shop complete with a high pressure test bench.

Scott Lucero is AFV Fleet Service GM. Ron Eickelman is Fab president.