

The Hydrogen Highway

Schwarzenegger Comes Through on His Promise, Comes to Davis And Signs Order on \$100 Million Hydrogen Highway in California
California Governor Arnold Schwarzenegger came through on a key campaign promise last week, signing an Executive Order to begin work on hundreds of hydrogen fueling stations throughout the state, with a true network to be in place by 2010. Schwarzenegger signed the order at the



hydrogen fueling facility at the University of California at Davis. He arrived in a Toyota fuel cell vehicle, which he fueled at the Air Products hydrogen station there.

Vehicles from numerous automakers were on display at the event, the Governor's first to a state university since taking office this past November. "What we see here today, this is the future of California and the future of environmental protection," Schwarzenegger said.

"Hundreds of hydrogen fueling stations will be built, and these fueling stations will be used

by hundreds of thousands of cars and trucks and buses."

"A healthy environment leads to a healthy economy and a more productive workforce," the governor said. "I will make sure we get federal funds to support our environmental efforts."

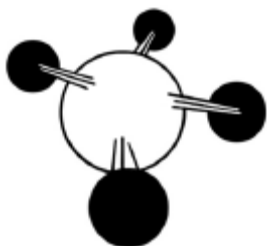
"We cannot build a 21st-century economy on 19th-century technolo-

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Universal Acceptance

International Symbol Seen Helping Legitimize the NGV Industry

The European and International Natural Gas Vehicle Associations are proposing an international signage symbol for natural gas vehicle fueling.



If successfully established, the symbol could help lend legitimacy to an industry that remains on the fringe of mainstream transportation fuel markets. ENGVA and IANGV have begun the laborious process of getting the methane molecule-inspired logo accepted by the United Nations and other world bodies.

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Diesel Technology Forum

Association battles for a better image for its fuel, arguing that diesel is getting cleaner, with a fundamental efficiency that can help reduce greenhouse gas emissions.

DTF is for the first time displaying at Clean Cities, just one of some 40 venues it's hitting this year as part of a stepped-up outreach program.

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Hydrogen Vehicles

The 'Hydrogen Highway' (continued)
gy," said California EPA Secretary Terry Tamminen.

"There are no show-stoppers to hydrogen power," Tamminen said. Instead, there is a "chicken-and-egg" situation which will be largely solved by building the fueling stations first. His office is charged with coming up with a *California Hydrogen Economy Blueprint Plan* to do so (by **January 5, 2005**) — including how to cover costs estimated at \$90 million to \$100 million.

'Every Californian Will Have Access'

Tamminen told reporters that "the beauty of hydrogen" is that it can be used in internal combustion vehicles as well as fuel cell cars. He predicted that that BMW and Ford would be the first to bring hydrogen cars to market.

Schwarzenegger's Executive Order, number **S-7-04**, states that hydrogen, "a non-carbon energy carrier which can be made from clean renewable energy, is ideally suited to address global, regional and local energy and environmental challenges;" and, "by 2010, every Californian will have access to hydrogen fuel, with a significant and increasing percentage produced from clean, renewable sources."

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Newsom Takes Delivery

Honda Formally Delivers Fuel Cell Vehicle Said First to be Handled by a Regular Dealer
They've had them for several weeks (*F&F*, March 29), but now it's official: San Francisco Mayor Gavin Newsom has taken formal delivery of a pair of Honda FCX fuel cell vehicles.

Leased for \$500 per month, they are said to be the first FCVs ever to be handled by a regular automotive dealership, in this case San Francisco Honda, located just a few blocks from City Hall, where the handover took place April 13.

"This is a real-world vehicle," Honda alternative fuel vehicles sales chief Gunnar Lindstrom aid there.

On hand were California EPA chief Terry Tamminen and San Francisco environment director Jared Blumenfeld.

What, No Spoiler?

Newsom, a former EV1 driver, noted that San Francisco operates some 700 clean fuel vehicles, comprising about 15 percent of the City fleet.

"San Francisco is poised to become the premier stop on California's hydrogen highway," he said.

Air Products is helping with hydrogen fueling.

Another first: *F&F* editor Rich Piellisch grabbed a ride home from the event in a Honda FCX, marking his first experience in an FCV driven not for ride-and-drive show but to reach a destination.

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City of San Francisco, Rick Ruvolo, 415-355-3762;
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Air Products, Mark Pedersen, 707-748-7595, ext 18; fax 707-748-7585; pedersms@apci.com; www.airproducts.com



San Francisco Mayor Gavin Newsom and California EPA Secretary Terry Tamminen (center) listen to Honda alternative fuel vehicles sales chief Gunnar Lindstrom at ceremony at San Francisco City Hall on April 13.

Electric Vehicles

100 Hybrids?

Toronto Requests Bids for Hybrid Buses, BAE Improves Drives on New York Orions

The Toronto Transit Commission may buy as many as 100 hybrid electric transit buses, likely placing an order late this year.

TTC this month hosted a public display of an Orion VII hybrid with BAE Systems drivetrain of the type now being delivered to New York City Transit.

"These buses use up to 22 percent less fuel with a reduction in carbon monoxide emissions in the order of 90 percent," the agency said.

'Numerous Refinements'

All manufacturers have been invited to bid, however. "It's an open tender," says TTC's Bill Brown, with proposals due mid-June and a purchase decision expected by year-end.

Orion and BAE, meanwhile, have improved upon the prototype vehicles for the 325 production vehicles that have now begun to be delivered to NYCT.

"The new hybrids being delivered now have numerous refinements when compared to the ten Orion VI hybrid buses that have been in service in NYC for over five years," says Orion Bus Industries

sales VP Mark Brager.

The improvements include 5.9-liter Cummins ISB engines (replacing Detroit Diesel Series 30 engines); better integration between engine and generator, a robust planetary gear on the traction motor replacing offset gear reduction on the prototype, and better battery management, says Tom Webb of BAE.

The last is perhaps the most important, as it allows for a two-year warranty on off-the-shelf, deep-cycle sealed lead acid batteries, Webb told *F&F*.

Lead Acid Said Cheapest to Buy, & Long-Term Too

Lead acid, Webb says, has "got the best life-cycle cost when you can get at least two years." Some of the prototypes now have logged three years on the same battery pack, he says, thanks to a simple periodic maintenance procedure that's performed onboard the vehicle every six months.

"These refinements have further improved fuel economy while reducing emissions and making maintenance tasks easier to accomplish," adds Orion's Brager. "Deliveries of the first 125 Orion VII hybrids will continue through the third quarter of 2004," he told *F&F*, "and delivery of the next 200 buses will follow starting in the fourth quarter."

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mbrager@orionbus.com; www.orionbus.com

Watch for updates on potential hybrid orders by Chicago and San Francisco in a future issue of *Fleets & Fuels*

New APU

Hydrogenics PEM Modules for SunLine Boosting U.S. Army Truck to 20 Kilowatts

Hydrogenics (NASDAQ:HYGS) is supplying a pair of 10-kilowatt HyPM brand proton exchange membrane fuel cell power modules to SunLine Services for an electric truck project the transit agency affiliate is coordinating with the U.S. Army's National Automotive Center.

The Class 8 Peterbilt tractor had originally been outfitted with 5 kilowatts of power from a solid oxide fuel cell. The two HyPM modules will be combined into a single 20-kilowatt APU. Researchers, including Alan Montemayor of San Antonio's Southwest Research Institute, are gradually replacing the truck's shaft- and belt-driven components with electric ones while at the same time evaluating fuel cell performance under road conditions (*F&F*, March 3, 2003).

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jdogterom@hydrogenics.com; www.hydrogenics.com

SwRI, Alan Montemayor, 210-522-6940; fax 210-522-5720;
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SunLine, Bill Clapper, 760-343-3456; fax 760-343-1986;
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U.S. Army, Herb Dobbs, 586-574-5157;
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ZF Sachs for FedEx Europe

The German Driveline and Chassis Specialist For Hybrid Version of Daimler Sprinter Vans

The German driveline and chassis specialist ZF Sachs is supplying components for hybrid electric versions of DaimlerChrysler Sprinter vans being developed for FedEx EMEA (Europe, the Middle East and Africa).

FedEx is "in discussions with DaimlerChrysler to become fleet partner for the development of a hybrid panel van," the package delivery firm said in London.

Battery types being considered include nickel metal hydride from Varta and lithium ion from Saft.

A plug-in hybrid version of the hybrid Sprinter is being developed in league with EPRI in California.

FedEx EMEA is also fielding 27 LPG/propane-fueled Sprinters this month in London.

FedEx EMEA, Neil Gibson,

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Electric Vehicles

UQM-Autokinetics

PM Motors to Power a Lightweight Bus Seen Easing Hybrid Design Challenges
Colorado's UQM Technologies (AMEX:UQM) reports a contract to supply permanent magnet motors for a lightweight 40-foot transit bus being developed Autokinetics, of Rochester Hills, Mich., with funding from the U.S. Department of Energy.

The vehicle was formerly promoted for Asian markets (*F&F*, Feb. 3, 2003) by the late Ray Geddes, who ran UQM when it was known as Unique Mobility.

The bus, to be built with a high-strength steel, will have an estimated curb weight of 9,600 pounds, "which represents a mass reduction of 64 percent compared to conventional buses thereby improving passenger carrying payload and fuel economy," UQM says.

Lower chassis weight also facilitates inclusion of such heavy equipment as batteries for hybrid electric drives and fuel tanks for natural gas or hydrogen.

Autokinetics, president Bruce Emmons, 248-852-4450;

fax 248-852-7182; jbemmons@autokinetics.com

UQM info, Don French, 303-278-2002;

fax 303-278-7007; dfrench@uqm.com; www.uqm.com

Gaseous Fuels

Quantum on a Roll

Firm Discloses a Spate of Hydrogen Contracts Related to Both Fueling & Vehicle Development
Quantum Fuel Systems (NASDAQ:QTWW) is talking up a raft of new hydrogen vehicles work covering both fuel cell and internal combustion designs.

Among the firm's recent scores:

- a \$2.3 million contract to design a complete fuel system for the conversion of 30 new Toyota Prius vehicles to hydrogen operation for California's South Coast Air Quality Management District. "Included in the fuel systems will be the company's patented fuel injectors, fuel rails, electronic control system and software, hydrogen storage and a customized turbocharger," Quantum says. The value of the contract could rise to \$2.5 million if the Pentagon's National Automotive Center (NAC) gets onboard for an additional five cars;
- two contracts for 10,000-psi hydrogen systems for General Motors-affiliated Suzuki and Opel. "Quantum's 10,000-psi storage technology increases the driving range of a vehicle by approximately 67 percent compared to equivalent size storage tanks at 5,000-psi, allowing the automakers to ultimately offer driving ranges similar to those of gasoline vehicles," Quantum says. A hydrogen-fueled Opel Zafira with a 10,000-psi fuel system shared the stage with Governor Arnold Schwarzenegger when he signed the Hydrogen Highway executive order last week. It is the

world's first working vehicle with a 10,000-psi system, Quantum president Alan Niedzwiecki told *F&F* there; and

- expansion of an existing NAC contract to include a transportable hydrogen refueler, the "HyHauler Plus," to support a fuel cell powered light-duty off-road vehicle also being developed by Quantum. The electrolysis-based HyHauler includes a cascade of Quantum's Tri-Shield brand all-composite fuel cylinders.

GM owns approximately 15 percent of Quantum.
Quantum, president Alan Niedzwiecki, 949-399-4552;
fax -399-4600; aniedzwiecki@qtww.com; www.qtww.com

Dynetek-TOHS

Dynetek Industries (Toronto:DNK), best known for compressed fuel storage, is joining forces with Texaco Ovonic Hydrogen Systems to design and co-develop a vessel for TOHS' metal hydride storage. TOHS said separately that it's won U.S. DoT approval for transport of hydrogen in metal hydride containers: "a major regulatory achievement for the envisioned future of hydrogen," said TOHS regulatory manager Ned Stetson. The exemption authorizes re-qualification by ultrasonic inspection, effectively extending the service life of a metal hydride canister well beyond the 5-year limit of previous exemptions, TOHS says.

TOHS, Michael Zelinsky, 248-293-7234;

mzelinsky@txohydrogen.com; www.txohydrogen.com

Dynetek, president Robb Thompson, 403-720-0262, ext 106;

robb.thompson@dynetek.com; www.dynetek.com

Avalence for Colorado Hythane

Fort Collins Utility has chosen a Hydrofiller 175 hydrogen fuel generator from Connecticut's Avalence to make the hydrogen for a Hythane fleet project in the Colorado town.

Avalence says the Hydrofiller is the only hydrogen generator yielding 5,000 psi hydrogen without mechanical compression.

Avalence, CEO Deborah Moss, 203-701-0052, ext 104;

fax 203-878-4123; dkm@avalence.com; www.avalence.com

Clarification

Type IV or Type III? Hyundai's Still Deciding

Hyundai is still mulling the best solution for onboard compressed hydrogen storage: Type III cylinders with aluminum liners or all-composite Type IV cylinders with polymeric liners.

The Korean automaker used all-composite Type IV tanks from Quantum on the fuel cell version of its Santa Fe SUV, but went with aluminum-lined Type III tanks from Dynetek on the newer Tucson FCV (*F&F*, April 12).

"Hyundai is pursuing both Type 3 and Type 4 storage tank technologies," says a company spokesman, "and is working with both Quantum and Dynetek to evaluate factors such as safety, performance, and cost.

"At this time it can not be determined which technology will have the final advantage."

Hyundai R&D (Chino, Calif.), Al Gloddeck, 909-215-6965;
agloddeck@hatci.com; www.hyundaitucson.com

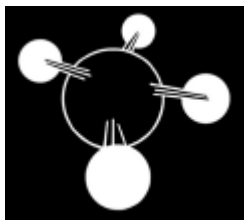
Natural Gas Vehicles

Universal Acceptance

Proposed International Symbol for CNG Fueling Is Seen Helping Legitimize World NGV Industry

A new international signage symbol for natural gas vehicle fueling is seen as lending a fundamental legitimacy and credibility to the NGV industry.

In Europe, says a statement from the European Natural Gas Vehicle Association, where there are more than half a million NGVs supported by some 1,550



fueling stations, "There remains one outstanding consumer-oriented problem: NGV drivers don't generally know where they can buy CNG because there is no recognizable, international standard for CNG fueling station highway signage like there is for gasoline and diesel."

"Different fueling station artwork and logos are appearing in various countries, in different languages," says ENGVA chief Jeff Seisler, citing the examples of *erdgas* in Germany, *fordonsgas* in Sweden, *aardgas* in the Netherlands, and *metano* in Italy.

But the issue goes far beyond mere translation.

"The the time is right for NGVs to enter a more legitimate position in the public domain," Seisler told *F&F*. "With support from the United Nations to officially approve a CNG fuel station logo," he says, "the creation of an international (and internationally accepted) fuel station logo may be the best public relations and communications opportunity yet afforded to the NGV industry."

Historic Opportunity for Critical Credibility

ENGVA and the International Natural Gas Vehicle Association have begun the laborious process of getting the methane molecule-inspired logo accepted by the UN and other world bodies. They hope for the logo to be recognized under the Working Party on Road Traffic Safety of the 1968 Vienna Convention.

The new symbol has been designed to leave space for the letters 'CNG' or its local equivalent, and has variations for use on white or black backgrounds.

Seisler acknowledges that formal acceptance of the logo could take years, "due to the very long time it takes to ratify amendments to treaties." But, given the symbol's value as a marketing tool, "sometimes things can get done on a *de facto* basis versus a *de jure* basis — through real-world use versus formally 'legal.'"

ENGVA, executive director Jeff Seisler
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Two News

Clean Energy Acquires CNG Fueling In New Mexico and in New York State

Clean Energy is widening its natural gas fueling empire, again, taking over vehicle fueling operations in New Mexico and New York.

The New Mexico deal, reached late last year, was disclosed earlier this month. The New York deal awaits formal disclosure, but word has gotten out behind an internal memo at New York State's Office of General Services (OGS), and a subsequent report by the Natural Gas Vehicle Coalition.

Clean Energy's purchase of a network of nine natural gas fueling stations and related service contracts from the Public Service Company of New Mexico awaits formal approval by the New Mexico Public Regulation Commission.

Expanding on Long Island

Clean Energy has assumed operations of PNM's nine CNG stations, augmenting an independent station Clean Energy owns and operates at Las Cruces.

In New York, Clean Energy has taken over operation of eight CNG stations, opening them to the public this month. A ninth is being built in Syosset, on Long Island, to open in June.

Clean Energy is similarly taking over management of CNG fueling stations from Union Gas in Toronto.

Clean Energy said at *F&F* presstime that it will build a CNG fueling station at Dallas Love Field, too.

Clean Energy (east), Mr. Garnet Glover, 781-685-4857;
fax 781-685-4601; gglover@cleanenergyfuels.com

Clean Energy (west), VP Mitch Pratt, 562-493-2804;
fax 562-493-4532; mpratt@cleanenergyfuels.com;

www.cleanenergyfuels.com

New York State DoT, Joe Darling, 518-457-2875;
fax 518-457-0413; jdarding@dot.state.ny.us

New York State OGS, Gerald King, 518-408-1491;
fax 518-486-1734; jerry.king@ogs.state.ny.us

NGV Champions Sought

The International Association for Natural Gas Vehicles is seeking nominees for the NGV Champions awards to be bestowed at the world NGVs gathering in Argentina this fall.

There will be six winners, one each from the United States, Canada, Latin America, Europe, Asia-Pacific, and the Middle East.

NGV Champion nominations are due **May 21**. NGV2004 is being held **October 26-28** in Buenos Aires.

IANGV, Dr. Garth Harris, +64-9-810-9747; fax same;
iangv@iangv.org; www.iangv.org

More Meetings News on Page 7

Publications

Clean Diesel Costly, Says UCS

Equipment to Pare Emissions Found Expensive, But News Said Better on Greenhouse Emissions
A report from the Union of Concerned scientists finds that while diesel is indeed a much cleaner choice than it used to be, “questions remain about how much cleaner diesel vehicles can get,” and, to the chagrin of the diesel industry, finds too that “diesel will still carry a higher price tag.”

The Diesel Dilemma: Diesel's Role in the Race for Clean Cars includes an “apples-to-apples” comparison of diesel and gasoline for the five major classes of passenger vehicles: small cars, family cars, SUVs, minivans, and pickups, UCS says.

In a separate report released just last week, UCS says emissions control hardware already in use or available in the near term can go a long way toward reducing emissions of greenhouse gases from vehicles.

Technology already in automotive use can reduce heat-trapping pollution by 20 percent for \$600 per vehicle, paying for itself in just over 3 years, says UCS' *Climate Control: Global Warming Solutions for California Cars*.

Technologies available soon could reduce greenhouse gas emissions by 40 percent and recoup costs in just over 4 years, UCS says.

UCS, Jason Mark, 510-843-1872; 510-843-3785;

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Tiax On AFVs

Tiax, subsequent to enactment of a July 2002 California law requiring passenger vehicles and light duty trucks to



achieve maximum feasible reduction of greenhouse gas emissions by model year 2009, has conducted a new study

on behalf of the Bluewater Network to compare conventional and alternative fuel vehicles with respect to consumer cost, “well-to-wheels” greenhouse gas emissions, and fuel cycle criteria pollutant emissions.

Tiax is a technology consulting spin-off of A.D. Little. Tiax, Stefan Unnasch, 408-517-1550;

unnasch.stefan@tiaxllc.com; www.tiax.biz

A Natural for Hydrogen

Watch for an interview with Energy Secretary Spencer Abraham in the May issue of *Natural Gas Fuels* magazine. Among the topics: natural gas vehicles, viewed by many as the indispensable “bridge” to a hydrogen transportation future, may finally get their due as the U.S. government gears up its hydrogen commercialization drive.

Natural Gas Fuels (RP Publishing),

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Big Money in Diesel

Demand for Costly Controls to Grow at 500%, We're Seeing 'Only the Beginning,' Says ABI
Impending Euro 4 emissions will boost demand for factory diesel particulate filters (DPFs), and “this is only the beginning of increased demand for advanced exhaust catalyst systems,” says ABI Research Europe.

“Diesel particulate filters, selective catalytic reduction, and de-NOx systems are all going to increase dramatically in use in the coming years” says ABI analyst Dan Benjamin. And they'll be expensive: “Be it urea, platinum, rhodium, or other advanced material, these systems will increase the demand for precious metals and ceramics.”

Diesel Controls are Costly

“The unit costs for emissions treatment systems tends to be quite high,” ABI says, predicting that the world DPF market for passenger vehicles alone could grow to upwards of 2.5 billion euros by 2010 – nearly \$3 billion U.S. at current rates. The market stood at less than 100 million euros in 2003, ABI says. Europe is the market leader now, but regulations could make for higher market penetration in the U.S. and Japan.

There will be increased demand for advanced controls for cleaner gasoline vehicles as well, ABI says.

ABI's *Engine Management Systems: Emerging Markets for Advanced Exhaust, Fuel, and Intake Technologies* examines a wide range of diesel emission controls, with regional forecasts through 2010.

ABI also has a new study on hybrid electric vehicles (*F&F*, March 29).

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Perceptions of Clean

Gasoline Prices Are Prompting U.S. Consumers To Eye Hybrids — and Diesels, Says J.D. Power
High gasoline prices are prompting U.S. consumers to look to clean diesel or hybrid electric vehicles, says the 2004 Consumer Acceptance of Alternative Powertrains study by J.D. Power and Associates.

More than 75 percent of respondents indicated awareness of hybrids, and 40 percent awareness of clean diesels, said a Power poll of 7,126 consumers who purchased a new light vehicle in the past three years.

J.D. Power, Michael Greywitt, 805-501-2183,

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More Diesel News on Page 8

Events

Clean Cities Expands

A Broader Purview at 10th Annual Meeting Being Held Next Week in Fort Lauderdale

"While our first Clean Cities decade was clearly focused on alternative fuels, it now makes sense to expand our efforts to include reducing or minimizing our petroleum use in other areas," says Clean Cities director Shelley Launey.

That means new emphases now at Clean Cities on hybrid electric vehicles and on the fuel economy of conventional vehicles.

The shift in emphasis will be reflected at the organization's tenth annual meeting, being held **May 2-5** in Fort Lauderdale, Fla.

Delegates from more than a dozen countries are expected as Clean Cities stresses its role not only in its 80 member communities but in helping U.S. clean vehicles firms do business abroad. Delegates from Egypt and India will report on their work in natural gas vehicles, and delegates from the Philippines will describe their work with biodiesel.

The meeting will also feature an auction of low-mileage alt fuel vehicles from the federal fleet. Cars sold last year at about half the book price, making the GSA auction alone enough to justify a trip to Florida.

Clean Cities (U.S. DoE), Kimberly Taylor of the National Renewable Energy Laboratory, 303-275-4358; fax 303-275-4320; kimberly_taylor@nrel.gov; www.ccities.doe.gov



SAE World Congress 2005

The next SAE World Congress will be held **April 11-14, 2005** at Cobo Center in Detroit. The SAE International event is the world's premier automotive trade show and conference, called "a cornerstone of the global automotive OEM with a reputation as the most trusted source for state-of-the-art automotive engineering and technology." This year's show drew some 35,000 engineers and other attendees.

Abstracts for technical papers due **June 1**. Topics suggested include almost every aspect of automotive design, including alternative fuels and propulsion, and fuel cells.

SAE Customer Service, 724-776-4970; customerservice@sae.org; www.sae.org/congress

UK CVs in 2005

April 5-7, 2005, Commercial Vehicle Show at the National Exhibition Center in Birmingham, England. Organized by Britain's Society of Motor Manufacturers and Traders.

SMMT, Janet Wilkinson, +44-20-7344-9266; fax +44-20-7235-3702; jwilkinson@smmmt.co.uk; www.smmmt.co.uk; www.cvshow.com

More Meetings Action!! Click here for instant access to a complete calendar on the *Fleets & Fuels* website.

Ultracapacitors in July

Gathering Will Focus on Money and Markets, Dates Released for Hydrogen Storage Meet Too
Maine's Intertech will hold its Advanced Capacitor World Summit **July 14-16** at the Wyndham City Center Hotel in Washington, D.C.

The second annual Intertech conference on high power electrochemical capacitors for energy storage emphasizes market opportunities and engineering trends: supply and demand, applications, design, and new materials and manufacturing development.

Intertech Hydrogen in December

"The conference will be devoted to helping developers, producers and users of electrochemical capacitors assess market dynamics, emerging applications, and new manufacturing and deployment cost-reduction methods," Intertech promises.

Attendance is expected to top 200.

Intertech has also released dates for H2PS, its 2004 Hydrogen Production & Storage Forum. The consultancy's second H2PS gathering will be held **December 6-8** at the Washington Marriott.

Intertech, Stephanie Edwards, 207-781-9605; fax 207-781-2150; sedwards@intertechusa.com; www.intertechusa.com

Intertech, Brian Santos, 207-781-9618; fax 207-781-2150; bsantos@intertechusa.com; www.intertechusa.com

Deadline Friday!

This **Friday, April 30**, is the due date for abstracts of technical papers for the Hydrogen & Fuel Cell Futures Conference being held **September 12-15** outside Perth, in Western Australia. *Conference Secretariat, +61-8-9322-6906; hydrogen@congresswest.com.au; www.dpi.wa.gov.au*

Next Year in Monaco

Organizers of EVS-21, the 21st Worldwide Battery, Hybrid and Fuel Cell Electric Vehicle Symposium & Exhibition, are stepping up promotion of their world EV gathering, which will be held **April 2-6, 2005** at the Grimaldi Forum's Espace Ravel, in Monte Carlo, Monaco. *Act Now for Sustainable Mobility* is the meeting theme. Abstracts for technical papers are due **September 6**.

EVS-21, Simone Mirza, +377-97-77-54-21; fax -77-54-22; simonemirza@evs21.org; www.evs21.org

Batteries in San Francisco Soon

June 1-4, AABC-04, the fourth international Advanced Automotive Battery Conference. Renaissance Parc 55 Hotel in San Francisco. Covers fuel cells and ultracapacitors as well as batteries. Organized by California's Total Battery Consulting / Advanced Automotive Batteries.

TBC/AAB, Dr. Menahem Anderman, 530-692-0140; fax 530-692-0142; info@advancedautobat.com; www.advancedautobat.com

Strategies

Diesel Technology Forum

Advocacy Group Steps Up Outreach Effort With Clean Cities Just One Stop Out of 40

The Diesel Technology Forum is stepping up efforts to get out a very simple message: diesel is not the dirty fuel it used to be, and the efficiency of the diesel engine means diesel vehicles use less fuel.

That translates to less need for imported oil, and lower greenhouse gas emissions. The key? Low-sulfur diesel, making possible a sharp reduction in particulate emissions.

Low-sulfur diesel, says DTF executive director Allen Schaeffer, "is one of the essential pieces of the clean diesel system, and it's coming in 2006."

DTF raised eyebrows among organizers of next week's Clean Cities meeting in Fort Lauderdale (see page 7) by reserving display space at the show. Much will be occupied by key association member Bosch, a supplier of diesel engine systems with designs on the U.S. passenger car market.

'More Clean Air for the Dollar'

Schaeffer points to gasoline prices expected to be up some 20 cents per gallon this summer, while "the diesel differential is seven or eight cents" — and diesel cars get better per-gallon mileage. Mercedes and Volkswagen are offering new clean diesel models to the U.S. market.

Schaeffer says hybrid drivetrain technology is helping the diesel cause, pointing to diesel-fueled hybrid electric delivery vans just deployed for in-service testing by FedEx Express (*F&F*, April 12). The trucks have an engine from DaimlerChrysler/Mercedes and an electric powertrain from Eaton, both DTF members.

"There's been a lot of change in the diesel world," Schaeffer says. "Diesel technology has made tremendous strides, and now can have near equivalent emissions levels compared to alternative fuels — but at far lower cost — resulting in more clean air for the dollar."

DTF has been to Clean Cities before, and attendees will remember spirited exchanges between Schaeffer and Rich

Kolodziej of the Natural Gas Vehicle Coalition in the "Great Diesel Debate." DTF was at the Fleet Management Institute meeting in Atlanta earlier this month too, and is helping with a vehicles retrofit conference, in league with the U.S. EPA, slated for **June 3-4** in Washington.

But the Florida exhibit will be a Clean Cities first.

"We have an extensive outreach calendar this year that will put us in over 40 different venues," Schaeffer says. His budget has grown by 15 to 20 percent for the past two years, and the organization is looking for a full-time technical program manager, taking staff from three to four.



**Diesel
Technology
Forum**

With wide availability of low-sulfur diesel set for 2006, DTF is taking a strong bottom-line argument to fleet operators:

"Do I invest in a comparatively expensive alternative fuel technology and infrastructure that allows me to only be able to purchase a few new buses at a time and also delays the replacement of the existing fleet, which results in dirtier air?" asks Schaeffer; "Or (his emphasis), do we buy as many clean diesel buses as possible, upgrading the average age of our fleet, which would allow funds to expand routes and minimize fare increases?"

"Our view is that there is a place for all of these technologies, and each fleet or city has to decide what the right mix of technologies is."

"Times are changing," Schaeffer says. "It's in everyone's best interest that we not apply the traditional labels of 'clean' and 'dirty' as they have been in the past."

'Increasingly Emissions Competitive with Natural gas'

"The progress being made on diesel is such that it is increasingly emissions competitive with natural gas," Schaeffer continues, "but clearly superior on the economics front when you factor in infrastructure costs of running natural gas pipelines — building compressors and fueling stations and all the associated safety changes required to use a gaseous fuel."

As for the growing association itself, DTF is "unique," Schaeffer claims, with representation from diesel OEMs, manufacturers of emissions controls, and even a major oil company, BP.

"We're not just fuels, and not just engines," he says, "but all the pieces working together."

Diesel Technology Forum at a glance

Headquarters: Frederick, Maryland

Employees: 3, rising to 4

Members: Association of American Railroads, Association of Diesel Specialists, BERU, Bosch, BP, Caterpillar, Cummins, DaimlerChrysler, Delphi, Denso, Detroit Diesel, Donaldson, Eaton, Federal-Mogul, Ford, General Motors, Honeywell, International, John Deere, Johnson Matthey, Komatsu, L.E. Jones, Royal Oak Industries, Siemens VDO, Volvo/Mack

Stated Mission: Raising awareness about the economic importance and essential uses of diesel engines, highlighting the continuous improvements in fuel efficiency and emissions.

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