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## 'The Time Has Come'

*Ebullient Electric Vehicle Backers Get By with Few OEMs At Meeting that Drew 2,000-Plus to Stavanger Last Week*

"It's a \$5 trillion opportunity," Sankar Das Gupta said at the EVS-24, the world electric vehicles meeting, in Stavanger, Norway last week. With some 900 million vehicles in the world, and 50 million to 70 million new ones each year, the present rule of petroleum-driven transportation is not sustainable, he said.

His answer is the battery electric.

"The time has come," Das Gupta said. He is the founder and head of the Toronto-based lithium ion battery manufacturer Electrovaya.

### EVs Using India and China Platforms

EVS-24 was unusual in that with the marked exception of Toyota, the lead EVS-24 sponsor, and an exhibit (and Miev cars) by Mitsubishi, there was almost no traditional vehicle OEM presence.

"The legacy companies don't like us," Das Gupta said. His advice to the emerging EV sector? "Team up with visionaries."

"Find the champion and work with him," he said. Example? Electrovaya's "SuperPolymer" battery technology is being used for a brand new factory in Norway that will supply batteries for pure EVs by

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*A converted Toyota Prius by Norway's Eidsiva Energi and a 1970 VW beetle outfitted for full battery operation by four girls from Bodø were among the many vehicles on show as EVS-24, the world electric vehicles meeting, drew some 2,000 people to Stavanger, Norway last week.*

## Clean Energy Buying Exterran Transit Contracts

Clean Energy Fuels reported an agreement to acquire the natural gas fueling station business of Exterran Holdings, including natural gas station operations and maintenance contracts covering approximately 25 million GGEs (gasoline gallon equivalents) of natural gas fuel per year for four transit operators at eight facilities.

The Exterran contracts for LA Metro (with the largest CNG bus fleet in the U.S.) and the Massachusetts Bay Transportation Authority (MBTA) in Boston have been acquired.

Clean Energy's buy of Exterran contracts for Montgomery County Transit in Maryland and the Washington Metropolitan Area Transit Authority (WMATA) were pending as of F&F presstime. "The aggregate purchase price for the acquired contracts is approximately \$5.9 million, of which approximately \$3.2 million was paid upon the closing of the sale of the LACMTA and MBTA contracts," Clean Energy said.

"With more than 20% of the nation's transit buses running on natural gas fuel, we are positioned better to qualify for new contracts, renewals and extensions with leading transit agencies as the deployment of natural gas-fueled buses grows," said Clean Energy president and CEO Andrew Littlefair.

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Littlefair

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## EVS-24 in Stavanger, Norway

### 'Team Up with Visionaries' (continued)

Miljøbil Grenland. They are to be available from the first quarter of 2010, built using Indica Vista gliders from India's Tata, upfitted with drivetrains from Quebec's TM4. The Tata champion was Clive Hickman of TATA UK, Das Gupta said (*F&F*, January 26).

(Das Gupta said he first met Miljøbil Grenland chairman Oddbjørn Solum at the EVS-20 meeting in Long Beach, Calif. in late 2003.)

Next month, Electrovaya will announce a project to place its Maya-300 EVs with the Port of Baltimore. The Maya-300 is based on a car made by Chana (or Chang'An), one of the largest OEMs in China, with production of more than a million vehicles per year — many for the aforementioned "legacy" OEMs.

Among the many other notables at EVS-24 last week were His Royal Highness Crown Prince Haakon of Norway, Stavanger Mayor Leif Johan Sevland, World Electric Vehicle



Association president Robert Stussi, Electric Vehicle Association of Asia-Pacific president C.C. Chan, Electric Drive Transportation Association (U.S.) president Brian Synne, Toyota Europe senior VP Graham Smith,

Amory Lovins of the Rocky Mountain Institute, Chelsea Sexton of Plug-in-America, Menachem Anderman of Total Battery Consulting, Prof. Andrew Burke of ITS Davis, Think Norway president Richard Canny and, of course, architect and writer Harald Røstvik, responsible for EVS-24 organization. EVS-24 had more technical papers than any previous gathering, Røstvik told *F&F*.

Think was the major EVS-24 sponsor, after Toyota.

### Miljø Grenland – Tata – Electrovaya

"Our aim is to have it on the road, in serial production, in the first quarter of next year," CEO Bjørn Nenseth of Miljø Grenland, which is selling the cars, told *F&F* in Stavanger.

He was talking about the battery electric version of Tata's Indica Vista sedan, shipped from India as gliders and fitted with TM4 drivetrains and SuperPolymer lithium batteries made under license from Electrovaya.

According to Nenseth (*F&F*, January 26), Miljø expects to turn out about 1,000 cars in 2010 and as many as 5,000 in 2011.



TM4 gear under the hood of new Tata Indica Vista

Affiliate Miljø Innovasjon is building a SuperPolymer battery plant in Grenland, southwest of Oslo. Capacity is to be adequate for 5,000 battery cars per year plus 30% for other markets, Nenseth said.

Miljø Grenland showed the Europe road-compliant Indica Vista with new four-seat interior at its stand in the EVS-24 exhibition hall.

An older, prototype Tata Indica took part in the EVS-24 ride-and-drive.

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### Zytek Expands Drivetrain Line

Britain's Zytek promoted an expansion of its drivetrain line at EVS-24, effected by redesigning the 700-kilowatt "integrated" IDT 300-70 unit used for Modec battery electric trucks as the "flexible" IDT 300-70, with Oerlikon Graziano gearbox, to fit in passenger cars.

Already there is an application, Zytek sales and marketing director Steve Tremble told *F&F*, as the firm has secured government funding (from Advantage West Midlands) to use the flexible IDT 300-70 (and Valence lithium phosphate batteries) to convert Mercedes Vito vehicles for a new electric taxi program.



Zytek is converting 100 Daimler Smart Fortwo cars to battery operation using its 55-kilowatt IDT 120-55 drives and lithium ion batteries from Tesla, Tremble said.

Oerlikon Graziano also exhibited at EVS-24, citing applications for its gearboxes including the B0 electric vehicle by Pininfarina, Norway's Think City, and Club Car golf carts and light utility vehicles — as well as the new IDT 300-70 "flexible" by Zytek.

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## EVS-24 in Stavanger, Norway

### The Long Arm of Valence

Valence Technology (NASDAQ:VLNC), which has emphasized Europe as a market for real volume sales of its lithium iron magnesium phosphate batteries (*F&F Strategies*, Jan. 26), disclosed a three-year agreement to supply battery systems to Oxygen SpA of Padua, Italy.

Oxygen Cargo Scooters are in Switzerland, where the Swiss post office has 250, "but also in Spain, Belgium, Norway, Denmark, Finland, the U.K., Italy, France and Austria where several companies, both public and private, use Oxygen electric scooters every day for their deliveries," Valence says. Oxygen has said that it expects by 2010 to double its supply to Swiss Post, Correos (Spain) and Poste Norge (Norway), Austin, Texas-based Valence said in Stavanger.



The zero-emission scooters are made by PSA's Peugeot Motorcycle in France.

"This is another in a series of supply agreements we have signed with vehicle makers in the last 12 months as our technology has been evaluated and gained acceptance in the motive and stationary markets," said Alastair Johnston, Valence worldwide sales and marketing VP.

Beyond the Oxygen Scooter, Valence batteries could be seen or are being specified for several EVs promoted at EVS-24, among them the new Buddy Metro by Norway's Elbil Norge, and new Mercedes-based vehicles by the UK's Zytek. Valence supplies Britain's Smith Electric Vehicles for Smith's Edison and Newton battery trucks, and said at EVS-24 that it expects to provide batteries for those models when Smith brings them to the U.S. too.

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### ExxonMobil Separates, So Do Others

ExxonMobil, which had a large display (the first one seen on entering the EVS-24 hall), stepped up its promotion of its separator films for lithium ion batteries, displaying not only batteries by long-publicized customer Electrovaya, but batteries by EnerDel and by Asia's MGL and Lishen.



ExxonMobil promoted two new grades of its V series co-extruded films with an eye to greater thermal stability while allowing lower battery shutdown temperatures for greater safety.

Other firms promoting separator films at EVS-24 included Charlotte, N.C.-based Celgard and Japan-headquartered Asahi Kasei.

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## A123 for Chrysler & KERS

A123Systems Pulls Out the Stops at Stavanger, Company Claims 'Automotive Class Lithium Ion' Massachusetts-based A123 mounted a big push at EVS-24, showing four different full-size battery packs for Chrysler's new EV line, a McLaren Formula 1 race car to underscore A123's role in F1 Kinetic Energy Recovery Systems (KERS) and a battery pack for hybrid transit buses with BAE Systems drivetrains.



Chrysler has praised the scalability of battery packs made with A123's Nanophosphate brand lithium ion cells in prismatic format, which it said would help it "achieve its leadership in electric-drive systems and vehicles."

"This bold move by Chrysler changes the game and greatly improves our country's ability to modernize our transportation fleet," A123 president and CEO David Vieau said in a Chrysler release.

Chrysler this month said it's proposing for federal economic recovery money to be used to place 250 pure battery electric versions of its popular Dodge and Plymouth minivans with the U.S. Post Office. The project marks the fleet launch for the EVs, as Chrysler is proposing battery-dominant hybrids for consumers.

The Postal Vehicles, if built, will have A123 batteries. A123 VP Ric Fulop told *F&F* at Stavanger that to the best of his knowledge, Chrysler has opted against drivetrain hardware from Colorado's UQM Technologies, preferring a larger supplier.

He said his F1 customer, McLaren, is "the only team that's running KERS in all the races."

KERS allows F1 teams to use regenerative braking to improve performance, of increasing importance as engine designs have been frozen (*F&F*, Feb. 11, 2008).

Considerable bragging rights are involved: an A123 competitor told *F&F* that A123 paid \$100,000 to bring the McLaren car to the show.

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A123 Nanophosphate brand lithium ion battery packs for Chrysler's proposed Jeep Patriot EV, Town & Country EV (same platform as the Caravan for the U.S. Post Office), the Jeep Wrangler Unlimited EV, and the Chrysler 200C EV.

A young visitor to the A123 stand seems to find the McLaren Formula 1 car more interesting. A large battery pack with A123 cells for the HybridDrive drive for buses by BAE Systems was on display too (on yellow stand at back).

## EVS-24 in Stavanger, Norway

### AeroVironment's EV Solutions

Southern California's AeroVironment promoted a bevy of electric vehicle products at EVS-24, with an emphasis on production testing hardware, and chargers.



Thus the firm supports EV development efforts, and EV operations.

"Our EV solutions are designed for the real world," senior VP Mike Bissonette said in a release.

"With low power charging systems located at home and at the workplace, and with fast charging systems distributed strategically in metropolitan areas, EV drivers can embrace clean transportation without the fear of being stranded."

Easy-to-use, ergonomically designed products are a new AeroVironment emphasis.

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### Seasoned Skeptic Dismisses 'Amateurs'

"Do you want to get people excited or do you want to tell them what's real?" battery consultant Menahem Anderman challenged *F&F* immediately following EVS-25.

Pointing out the lack of OEMs among Stavanger exhibitors — not just automotive OEMs but the big battery makers (Hitachi, Panasonic, Sanyo; Japan's GS Yuasa a noted exception), Anderman dismissed the companies promoting lithium batteries and new vehicles as "amateurs."

His fear, he said, is that firms like A123 gearing up for near-term volume production are moving too fast, using U.S. economic stimulus money to build factories without the necessary steps of pilot and low-volume production. The problem, he says, is the potential for batteries that won't last the life of the vehicles they power, and the factories will have to re-tool, setting back the entire business.

He promises the real story, *sans* hype, at his AABC conferences. The next one, AABC-09, the 9th International Advanced Automotive Battery and Ultracapacitor Conference and Symposia, is set for June 8-12 at the Long Beach Convention Center in Long Beach, Calif.

Anderman, who has been busy with OEM clients in Europe, has set his California consultancy's first Europe-focused battery meeting: the AABC Europe 2010 conferences will be held in Mainz, Germany, February 2-5, 2010. AAB (California), Dr. Menahem Anderman or Carol Chambers, 530-692-0140; fax 530-692-0142; [carol@advancedautobat.com](mailto:carol@advancedautobat.com); [www.advancedautobat.com](http://www.advancedautobat.com)

### First German Electric Vehicle Conference

June 16-17, First German Electric Vehicle Conference. World Conference Center and Old Parliamentary Building in Bonn, Germany. Organized by Nova-Institut GmbH. Nova-Institut, Nicklas Monte, +49-2233-48-1440; fax -1450; [contact@nova-institut.de](mailto:contact@nova-institut.de); [www.nova-institut.de](http://www.nova-institut.de)



**First German  
Electric Vehicle Congress**  
June 16<sup>th</sup> + 17<sup>th</sup> '09, World Conference Center, Bonn

### Bright Shows Its Bright Idea

Bright Automotive unveiled its Idea plug-in hybrid in Stavanger (the light truck, said the world's first purpose-built 100-mpg vehicle for fleets, was also shown in Washington late last month; *F&F*, May 4).

The current prototype, sales VP Lyle Shuey told *F&F*, has a drivetrain by Bosch-Getrag and lithium ion polymer batteries from Korea's EIG, which also displayed at EVS-24.

"The Idea not only delivers revolutionary efficiency, it offers a lower cost of ownership than competing vehicles," Bright president and CEO John Waters said in a release.

"For the 100 largest fleets in the U.S., each having on average over 1,000 vehicles like the Idea in their fleet, the savings would average over \$3 million a year," Bright says.

"The Idea shows what is possible when an entrepreneurial start-up harnesses seasoned, driven professionals," Waters said, claiming the most experienced EV and PHEV team in the industry. Waters is said to have developed the battery pack for GM's first production electric vehicle. His Indiana startup is staffed by veterans of Chrysler, Delphi, and Johnson Controls as well as Altairnano and EnerDel.



Bright hopes to commence large-volume production of the Idea by the end of 2012 — "with an annual run rate of 50,000 units beginning in 2013."

Bright shared its EVS-24 booth with San Diego's Envision Solar International, which promoted its CleanCharge solar-powered charging station for EVs as the first in the U.S. Partners include Coulomb and Axion. Bright, VP Lyle Shuey, 765-298-6604;

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### Heuliez Unveils the Friendly

France's Heuliez, showed its own new EV at Stavanger, the 3-seat (the driver sits alone) Friendly. Range is stated at up to 250 kilometers (155 miles), depending on battery choice. Friendly's motors are off-the-shelf industrial units by Leroy Sommer, Jean-Phillippe Brun of Heuliez said.

The firm hopes to build as many as 10,000 per year at a large existing Heuliez plant at Cerizay, in partnership with the Poitou-Charentes government, hitting the market in April 2010.

The production vehicle will be somewhat larger than the ones shown inside and at the EVS-24 ride-and-drive.

Heuliez is no longer affiliated with Dassault/SVE-Cleanova (*F&F* Strategies, June 25, 2007).



Friendly attention at EVS-24

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## EVS-24 in Stavanger, Norway

### E-One for AC's Mini E Cars

BMW Mini Cooper cars outfitted for battery electric operation with AC Propulsion drivetrains (*F&F*, January 1) will have AC battery packs with Molicel brand lithium ion cells from Vancouver's E-One Moli Energy.



Approximately 600 Mini E vehicles are being placed among some 450 U.S. customers, with 50 for Berlin, 50 for England and 50 for miscellaneous evaluation by BMW.

AC Propulsion president Tom Gage was at EVS-24 as were several attendees from E-One Moli.

Separately, AC eBox customer Tom Hanks is telling the world, via today's issue of *The New Yorker*, about his other EV, or one of his others, a Toyota RAV4-EV. "My electric car recently crossed fifty thousand miles on the odometer with its original battery [Panasonic nickel metal hydride] but without so much as a splash of gasoline," he writes. Tom Hanks was not seen at EVS-24.



two Toms in 2007

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### Zebra Batteries by MES-DEA

"A single-technology future is impossible, so sodium batteries will have a lot of importance in the future," MES-DEA sales executive Marco Cassani told *F&F* at EVS-24, noting that his firm's Zebra brand sodium nickel chloride battery packs come complete with battery management systems built in, and still deliver upwards of 120 kilowatt-hours per kilogram. "The technology of nickel and salt will be one of the most important solutions for EVs," he said.

Stabio, Italy-based MES-DEA also makes a complete line of EV components, including motors, controllers, converters and "of course" onboard chargers, offers developmental fuel cells, and performs EV conversions.

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### EVS-25 in Shenzhen – November 2010

The 25th World Battery, Hybrid and Fuel Cell Electric Vehicle Symposium & Exhibition, EVS-25, will be held in autumn next year: November 5-9, 2010 in Shenzhen,



China, near Hong Kong.

The principal EVS-25 organizer, and host, is the China Electrotechnical Society (CES), in league with SAE China and the Electric Vehicle Association of Asia-Pacific.

*Sustainable Mobility Revolution* is the EVS-25 theme.

Deadline for technical paper abstracts is **January 5, 2010**.

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### EnerDel Emphasizes Think City

EnerDel promoted its multiple lithium ion battery chemistries at EVS-24, and showed a battery pack for a Think City car. EnerDel's bigger news is its inauguration of a new Indiana battery plant and a pact which could lead to a long term supply deal for the new Fisker Karma PHEV.

"Results of reliability and performance testing will determine a final contract," EnerDel says.

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### CNG at EVS? Yes

France's IFP described work on compressed natural gas-fueled hybrid electric vehicles at EVS-24, including a Mercedes Smart car outfitted as a dedicated-CNG mild hybrid using a "StARS extension" (starter-alternator



reversible system) drive with ultracapacitors from Valeo. Emissions of the so-called "Smart Veghan" are reported as 32% better than the standard gasoline vehicle, exceeding Euro 5

requirements, and the car with its weighs just 45 kilograms (99 pounds) more. Engineers used three composite cylinders with combined capacity of 36 liters for range of 250 kilometers, or 155 miles, and Keihin injectors for the moderately downsized turbocharged engine.

Fuel economy is stated at the equivalent of 3.5 liters of gasoline per 100 kilometers, or better than 67 miles per gallon. "A mild CNG hybrid vehicle is a good answer to the problem of greenhouse gas reduction," states an IFP paper.

"This demonstrator can provide solutions relevant to urban mobility." IFP has also converted a Prius to CNG.

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### Quicc Would Go Postal

"We are focusing on the postal services and municipalities," says Guido Boosten of Holland's Quicc/DuraCar Holding.

Quicc described its DiVa compact battery electric delivery van via an EVS-24 poster presentation. Quicc is promoting lithium ion iron phosphate batteries from Germany's Gaia.

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### EVS-26 in Los Angeles – November 2011

The Washington, D.C.-based Electric Drive Transportation Association takes its turn hosting the world conclave in late 2011, confirming the Los Angeles Convention Center for EVS-26, to be held **November 13-16, 2011**.

EDTA is also supporting next month's 6th International Fuel Cell Bus Workshop hosted by organizations including the U.S. DoT's Federal Transit Administration: **June 3-5** at the Pan Pacific Hotel in Vancouver.

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## EVS-24 in Stavanger, Norway

### Buddy Gets a Big Brother

Norway's Elbil Norge, which offers the Buddy battery electric (an evolution of the venerable Kewet, from Denmark, relocated to Norway in 2005), launched a slightly larger and more powerful version at EVS-24, the Metro.

The Metro has an improved steel frame, better mirrors and door handle, a wider track for better stability, energy-efficient LED headlamps, and low rolling resistance tires.



Oranges and apples in Norway

The company uses Advanced motors and Curtis controllers from the U.S., and Zivan onboard chargers from Italy, company founder and technical chief Jan-Petter Skram told *F&F*.

The car is available with lead acid batteries from GP or lithium ion phosphate batteries from Valence.

The company's goal is to sell its EVs throughout Europe. Shipments beyond Norway began in December — to Denmark, fittingly, “where it all began in 1991.”

Skram himself had been a Kewet importer since 1995.

More than 1,000 Kewet cars were sold in 18 countries.

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### Takhi Elektrisk Motorsykkel

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## Management

### Green Three Quarters

Some 75% of fleet managers responding to a survey by GE Capital Fleet Services at the annual NAFA I&E meeting in New Orleans late last month said that their current fleet strategy includes a “green” initiative.

The survey also found that real time asset data, such as the ability to track metrics like miles driven and fuel consumption was seen as most critical by 56% by respondents.

“In the midst of the downturn, fleet managers understand they have an opportunity to support overall business objectives by being mindful of cost while continuing to think strategically about the operation of their fleets,” GE Capital Fleet Services CEO Clarence Nunn said in a release.

“We continue to provide customers with in-depth data and analysis to help them make smarter business decisions and maximize their return on fleet investment,” he said.

for *GE Capital Fleet Services*, Gauri Mundkur, 212-279-3115, ext 226; mobile 267-312-3469; [gmundkur@cjpc.com](mailto:gmundkur@cjpc.com);

**More NAFA 2009 and other Meetings News on Pages 8-9**

### K2 Lithium Technology for Finland

FEVT, Finnish Electric Vehicle Technologies, will use technology from Nevada's K2 Energy Solutions to manufacture large-format prismatic lithium ion batteries in Finland, according to K2 business development director Mark Stoker.

K2 and FEVT showed a Volkswagen Passat converted to battery electric operation using a battery management system by FEVT and a Zytec driveline.

FEVT is based in Tuusula, Finland.

K2, Mark Stoker, 702-478-3603; fax 702-558-0180;

[mstoker@peakbattery.com](mailto:mstoker@peakbattery.com); [www.k2battery.com](http://www.k2battery.com)

### Toyota Was the Lead EVS-24 Sponsor

Excepting a battery-oriented exhibit by Mitsubishi, Toyota was the only major automotive OEM with an EVS-24 display. Toyota showed a 2010 Prius and a 2009 model

outfitted for plug-in operation, as PHEV Prius trials, including leases, are planned in France and the UK

(*F&F*, March 23). Toyota also showed a Lexus hybrid and this 2010 Prius “cutaway.” Toyota media issued no announcements related to EVS-24.

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+32-2-745-3599; fax +32-2-745-2074;

[ortwin.meeuws@toyota-europe.com](mailto:ortwin.meeuws@toyota-europe.com)



### Norway's Think Global Stays in the Game

Financially beleaguered Think Global of Oslo and Aurskog mounted a strong Stavanger showing, with sponsorship

second only to Toyota and Think City cars in the ride-and-drive — and even a repeat of its car-in-a-bubble motif from last year's Geneva Auto Show outside the conference center. EnerDel, whose

parent Ener1 has lent support to Think, showed a new lithium ion battery pack for the Think City, and MES-DEA showed an old sodium nickel chloride one.

Think has just publicized a new homologation certificate for Europe and a 550-unit order in Spain.

*Think Global*, Katinka von der Lippe,

+47-9137-2172; [press@think.no](mailto:press@think.no); [www.think.no](http://www.think.no)



‘Clean Air Inside’

### Hybrid Retrofits Made Easier

Australia's ITS Electric (ITS stands for Innovative

Transport Solutions) is promoting a range of hybrid retrofit systems designed to minimize both cost and the amount of space they consume on a given vehicle.

Electric motors to ease engine load and pare fuel burn can be mounted on light vehicle (like the Ford F-150) differentials or, for larger trucks and buses, on axles. “Reductions of up to 60% are being achieved now,” the company says.

ITS Electric has systems for reefer trucks too.

ITS Electric, CEO Cliff Hall, +61-2-4683-0160;

[cliff@itselectric.com](mailto:cliff@itselectric.com); [www.itselectric.com](http://www.itselectric.com)



ITS Electric CEO Cliff Hall at AF&V 2009 in Orlando

## Biofuels

### Cellulosic Breakthrough

*Advance Means No Need for Cellulase Enzymes, Thus Cheaper Low Carbon Product, Says Mascoma*  
New Hampshire's Mascoma reports "major research advances" in consolidated bioprocessing, or CBP, which it says is a low-cost processing strategy for production of biofuels from cellulosic biomass.



"CBP avoids the need for the costly production of cellulase enzymes by using engineered microorganisms that produce cellulases and ethanol at high yield in a single step," Mascoma says.

The advances include thermophiles, or bacteria that grow at high temperatures. Some can continue to produce ethanol even while swimming in high concentrations of it. Mascoma is also talking up recombinant cellulolytic yeasts.

### Reductions in Both Capital & Operating Costs

"These advances enable the reduction in operating and capital costs required for cost-effective commercial production of ethanol, bringing Mascoma substantially closer to commercialization," said Mascoma research VP Jim Flatt.

"This is a true breakthrough that takes us much, much closer to billions of gallons of low-cost cellulosic biofuels," Michigan State University's Bruce Dale says in a Mascoma release. Dale edits the journal *Biofuels, Bioproducts and Biorefineries*.

Bruce Jamerson is Mascoma CEO.

Mascoma, VP Jim Flatt,

617-234-0099, [info@mascoma.com](mailto:info@mascoma.com); [www.mascoma.com](http://www.mascoma.com)

### Biodiesel Backers Welcome 'Clarity'

Biodiesel backers are pleased as the California State Water Resources Control Board approved the storage of blends up to 20% biodiesel in underground tanks. The regulators "provided important clarity" to the industry, said the National Biodiesel Board. Shelby Neal is NBB's state governmental affairs director.

"Today's decision is essential to allow California to continue to provide leadership with the use of cleaner, sustainable, American-made fuel for use in existing diesel engines," said Eric Bowen. Bowen is president and CEO of Tellurian Biodiesel and chairman of the California Biodiesel Alliance (CBA; *F&F*, February 9).

NBB, Jenna Higgins, 573-635-3893 or toll-free 800-841-5849, ext 15; [jhiggins@biodiesel.org](mailto:jhiggins@biodiesel.org); [www.biodiesel.org](http://www.biodiesel.org)

for CBA, at Tellurian Biodiesel,

president Eric Bowen, 415-285-8001; fax 415-738-2938;

[ebowen@tellurianbiodiesel.com](mailto:ebowen@tellurianbiodiesel.com); [www.tellurianbiodiesel.com](http://www.tellurianbiodiesel.com)

## Natural Gas Vehicles

### Trillium Upgrades

*Compressors Replaced in Anaheim & Brooklyn, Motors Are to Replace Engines at LA Metro Sites*  
Salt Lake City-based Trillium USA has replaced aging Knox Western compressors with more modern Ariel units in Anaheim, Calif. and at the Jackie Gleason Depot in Brooklyn, N.Y.

In Los Angeles, Trillium is proposing to apply approximately \$6 million in federal stimulus money to replace Caterpillar natural gas engines driving compressors at three LA Metro CNG stations with more efficient electric motors. The motors are expected to cost less to operate in terms of energy expense, be free of local emissions, require less maintenance, and last longer.

Nearby, Trillium is building a CNG station on the premises of Long Beach and Los Angeles port trucker Cal Cartage (*F&F*, April 6) in support of Southern California Gas's advocacy of CNG as the superior alternative fuel choice for drayage operations — most of which have no long range requirements.

### CNG Challenges LNG at the Ports

CNG, says Trillium president Mark Barton, "can be a very low cost fuel if you size the station correctly." The Cal Cartage station will have a 200-horsepower compressor. It will be able to support 35 to 40 trucks, seen ample as heavy duty CNG trucks are only now becoming available. SoCal Gas backed the development of an Autocar CNG truck that was shown at the recent Faster Freight Cleaner Air California conference in Long Beach, and the prototype CNG version of Freightliner's M2 made its debut at AF&V 2009 in Orlando last month.

Trillium USA pumps the equivalent of 35 million gasoline gallons of CNG per year, and business is growing at an annual 10%, Barton says.

Trillium USA, Jennifer de Tapia, 801-531-1166

or toll-free 800-920-1166; [jdetapia@trilliumusa.com](mailto:jdetapia@trilliumusa.com);

[www.trilliumusa.com](http://www.trilliumusa.com)

Freightliner, Bob Carrick, 503-745-2888;

[robert.carrick@daimler.com](mailto:robert.carrick@daimler.com); [www.freightlinertrucks.com](http://www.freightlinertrucks.com)

SoCal Gas, Bill Zobel, 858-654-8374;

[wzobel@semprautilities.com](mailto:wzobel@semprautilities.com); [www.socalgas.com](http://www.socalgas.com)



Trillium has completed a major equipment upgrade for New York City Transit.

## Natural Gas Vehicles

### ESI Progress

Watch for Emission Solutions, Inc. to disclose more EPA and California certifications of its ESI Phoenix NG 7.6L, a spark-ignition, dedicated-CNG variant of the popular 7.6-liter DT 466 engine from Navistar International.

The ESI Phoenix is designed as an easy-to-install alternative to the Navistar diesel.

"We're 2010 on the 12-valve engine," ESI president says in reference to U.S. EPA certification of the older Navistar model. And while he's not saying, sources indicate that approvals are expected shortly from the California Air Resources Board, and from the EPA and CARB for the newer, 24-valve Maxxforce variant.

ESI is cagey about its customers too, but at least one, Sam Swearngin of Kansas City, says he's ordered 19 of the new-engine models, to be fitted as dump trucks and several types of crew trucks.

Among the many emerging alternatives, including electric vehicles (which remain speed- and range-limited), "Natural gas is the clear winner," Swearngin told *F&F*.

ESI, president Jim Moore, 972-369-0092;  
jimmoore@emissionsolutionsinc.com;  
[www.emissionsolutionsinc.com](http://www.emissionsolutionsinc.com)

Kansas City, Sam Swearngin, 816-513-8356;  
sam\_swearngin@kcmo.org; [www.kcmo.org](http://www.kcmo.org)

### CNG for Dixie Chopper

Indiana's Dixie Chopper, which has long augmented its bread-and-butter line of gasoline-powered heavy duty mowers with propane models, has added a CNG-fueled machine called the Xcaliber Eco-Eagle.

Dixie Chopper bills its mowers as the world's fastest. The Xcaliber Eco-Eagle can cut eight acres per hour.



The new mower was unveiled at the AF&V 2009 show in Orlando last month (where it was featured in the ride-and-drive). It was requested by customers who already have access to CNG fueling, says Dixie Chopper dealer development manager Darren

Hughes. Most are in California, he says, but the first sales have been to Kansas City, which plans to buy at least six.

Production is to commence next month, Hughes says. The units shown at AF&V 2009 had CNG fuel tanks from Lincoln Composites.

"We do want to stay with Type IV," Hughes told *F&F*.

The CNG Dixie mower has a 900cc Generac engine.

Dixie Chopper, Darren Hughes, 765-246-7737, ext 227;  
darren.hughes@dixiechopper.com;  
[www.dixiechopper.com](http://www.dixiechopper.com)

Dixie Chopper (fleet sales), Michelle Wallace,  
316-323-4093; michelle.wallace@dixiechopper.com

Kansas City, Sam Swearngin, 816-513-8356;  
sam\_swearngin@kcmo.org; [www.kcmo.org](http://www.kcmo.org)

### FSSI to Be Based in New York

In a move reflecting an expanding international portfolio, Fuel Systems Solutions, Inc. (NASDAQ:FSYS) said late last week that it is relocating its corporate headquarters to New York City. "We have been aggressively expanding our business internationally and increasing our operational efficiencies," FSSI president Matthew Beale said in a release.

"Now," he said, "we are prepared for the next phase, which is to streamline our corporate offices and physically position our team more centrally to improve global communications and logistics."

FSSI is the parent of Impco, which has recently begun promoting its return to natural gas vehicles and securing of new qualifications for bi-fuel vehicles, and Italy's BRC, another major player.

FSSI recently acquired Argentina's Tomasetto Achille, and most recently emerged as the buyer of FuelMaker after the Canadian supplier of small fueling compressors was dropped by American Honda (*F&F*, May 4).

Beale is taking on CFO duties as Bill Larkin has elected not to relocate. He'll stay on until July 15. New York-based Michael Helfand has joined FSSI as senior finance VP and chief accounting officer, effective this past Friday.

FSSI, president Matthew Beale, 714-656-1300;

mbeale@fsys.com; [www.fuelsystemssolutions.com](http://www.fuelsystemssolutions.com)

### High-Opportunity CNG Conference in July

The country saw 1,200 natural gas vehicle conversions in 1977 and another 1,200 in 1992. In 2004, authorities got serious, and now the country claims fourth place in the NGV world, with some 1,300,000 vehicles.

The country is Iran, and the information comes from Azar Mehdinezhad, who is helping organize Iran's 2nd Annual CNG conference and exhibition, set to take place



July 26-27, at the Olympic Hotel in Tehran.

In addition to many thousands of gasoline vehicle conversions, Mehdinezhad reports, the OEMs Iran Khodro and Saipa have turned out more than 850,000 NGVs from March 2006 through March 2009, and expect to produce half a million during the current Iranian year.

Iran's natural gas pipeline network covers 560 cities and 3,226 villages.

"Iran is a good market for CNG equipment and related industries," Mehdinezhad told *F&F*.

"Coupled with a huge natural gas reserve, rapid growth in Iranian NGV business is guaranteed."

Mehdinezhad says that there are currently 802 CNG fueling stations in 318 Iranian towns, with 899 more planned to be built, and that all of the vehicles and fueling stations require hardware.

The July conference "will place special emphasis on the important underlying issues involved in the areas of policy making and investment opportunities," he says.

CNG Iran, Azar Mehdinezhad,

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azar.cngiranconf@gmail.com; [www.cngiranconf.com](http://www.cngiranconf.com)

More Meetings News on Page 9

## Events

### NAFA Thrives

*Association Talks Up New Orleans Meeting As It Looks Ahead to Detroit for I&E 2010*

Despite trying times, says the NAFA Fleet Management Association, the group's Institute & Expo drew nearly 1,900 fleet professionals to New Orleans late last month. The showing proves that NAFA I&E "is the fleet event of the year and a 'must-attend' conference," said executive director Phillip Russo.

"We actually had more exhibitors and more total square footage at the Expo than last year, which is remarkable considering the times," he said.

As reported (*F&F*, May 4), the gathering featured Daimler-Mercedes' B170 NGT bi-fuel sedan and several manufacturers of battery electric light utility trucks. North Carolina's Altech-Eco pulled out the stops to promote its CNG Ford Focus conversions as a more economical and longer-range alternative to the Honda Civic GX – with a bi-fuel option available.

### Award Winners & Fleet Greenhouse Gas Calculator

Ford showed its new Transit Connect van (although but literature distributed at NAFA I&E omitted any mention of the battery version to be outfitted by Smith Electric Vehicles in Missouri).

Green fleet award winners at NAFA included Jerome Webber of AT&T, Robert Howdysell of Riverside County, Calif., Rick Longobart of Riverside, Calif., and Allen Mitchell of Snohomish County, Wash.

NAFA I&E 2009 also saw the formal launch of the Fleet Greenhouse Gas Calculator, devised via a partnership with the Environmental Defense Fund. The online calculator makes it easier for fleet managers to more accurately gauge their greenhouse gas emissions as they plan for greener vehicle fleets.

NAFA says that exhibit space for the 2010 Institute & Expo was 30% sold out even before the New Orleans meeting wrapped up. I&E 2010 will be held April 24-27, 2010, in Detroit.

NAFA, Gary Wien,

609-986-1053; gwien@nafa.org; www.nafa.org



### Montreux 20 Next Week

May 25-26, Montreux Energy Roundtable XX, global energy outlook conference at the Montreux Palace Hotel in Montreux, Switzerland.

*Energy Independence – or Interdependence?* theme.

Montreux Energy (Lausanne), Andrew Bermingham, +41-21-560-4168; fax +41-21-560-4168; andrew@montreuxenergy.com; www.montreuxenergy.com

### Platts Advanced Biofuels in Washington

Platts has added speakers to the line-up for its Second Annual Advanced Biofuels conference June 4-5 at the Marriott Washington in Washington, D.C. They include

- Paul Machiele of EPA to discuss the new EPA proposed rules on the Renewable Fuels Standard II;
- John Cowie, director of the [Agenda 2020 Technology Alliance](#), to moderate a panel on forest biorefineries; and
- Frank Prautzsch, director of the Rapid Initiatives Group at Raytheon, who'll join a panel discussion on algae as a feedstock for advanced biofuels and chemicals.

Platts promises to cover policy, technology, and market issues for biofuels made from algae, wood waste, and other not-yet-commercial feeds. *New Fuels, New Feedstocks: Outlook for Commercial Development* is the meeting theme.

Platts, Ron Berg,

781-430-2118; ron\_berg@platts.com; www.platts.com

### Biomethane Summit in Sacramento

The California Natural Gas Vehicle Partnership and organizer Gladstein, Neandross & Associates are gearing up for the first National Biomethane Summit, to be held at the Sheraton Grand Hotel in Sacramento, Calif. on June 23.

Session topics from the just-released agenda include *Fundamentals: An Introduction to Biogas and Biomethane; the Opportunity for Increased Biomethane Production for Use as an Ultra-Low Carbon Vehicle Fuel; "Down and Dirty" Case Studies and Examples of Creating Biomethane from Landfills and Dairy Farms; The Legislative and Regulatory Landscape and the Road to Commercialization of Biomethane Vehicle Fuel; Financing and Funding Biomethane Projects and Opportunities for the Future; and The Opportunity for Biomethane Vehicle Fuel Under California's Low Carbon Fuel Standard.*

GNA, VP Anne Hellwig, 310-573-8558;

anne@gladstein.org; www.biomethanesummit.com

### Biomethane in Britain in June

June 3-4, UK National Biomethane Conference hosted by Cenex at Loughborough University's Holywell Park in Leicestershire, UK.

Sponsored by [Chesterfield BioGas](#) and [Greenlane Biogas](#). for Cenex, Sue Glanville, +44-20-8971-6423;

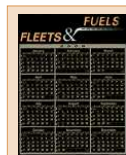
fax +44-20-8971-6407; sglanville@saycomms.co.uk;

www.cenex.co.uk or www.divacreative.com/biomethane

### Driving Ohio Forward Postponed Until Fall

Clean Fuels Ohio has postponed its Driving Ohio Forward Advanced Transportation Energy, Technology & Policy Conference, which had been slated for early next month, until fall, when attendees may focus on the next fiscal year. *Clean Fuels Ohio*, Andrew Conley, 614-884-7336;

andrew@cleanfuelsohio.org; www.drivingohioforward.org



### Meetings!!

Click here for instant access to a complete listing of upcoming meetings and conferences courtesy *Fleets & Fuels*