

news from **FUEL CELLS 2000**

Fuel Cells 2000's Fuel Cell Technology Update – July 2010

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Happy 4th of July to all our U.S. readers!

TRANSPORTATION APPLICATIONS

Forklifts Aplenty!

Sysco has deployed 98 Plug Power GenDrive™ fuel cell units to power a fleet of The Raymond Corporation's electric lift trucks at its new Houston, Texas distribution center - 72 Raymond Model 8400 pallet trucks and 26 Raymond Model 7400 *Reach-Fork*® trucks. The units will be immediately put to work, moving both dry and freezer goods throughout the 585,000 square foot facility. Plug Power's GenDrive™ fuel cell units will also power Walmart Canada's fleet of electric lift trucks at the company's sustainable refrigerated distribution center in Alberta, Canada. The fuel cells will be integrated into trucks manufactured by Crown Equipment Corporation. Both perishable and freezer goods will be distributed in Walmart Canada's newly-built facility to support retail stores in Western Canada. The GenDrive freezer units will operate in conditions as low as -20°F (-29°C).

<http://www.plugpower.com/newsroom/pressreleases.aspx?action=details&newsid=342>

<http://www.plugpower.com/newsroom/pressreleases.aspx?action=details&newsid=344>

Even More Forklifts.

Martin-Brower, the largest distributor to McDonald's, has purchased 15 of Oorja Protonics' OorjaPac Model III fuel cells for at the Martin-Brower Stockton, California food distribution facility. The methanol-fueled fuel cells will operate as on-board battery chargers for Class 3 forklifts vehicles.

http://www.oorjaprotonics.com/oorja/press_releases/MartinBrower_OOrja_Jun_17_2010_release.pdf

Serenergy to Supply Fuel Cells to Microcab.

Serenergy A/S has entered an agreement with Microcab Industries Limited for the supply of 10 Serenus 3kW fuel cell systems for use in Microcab's next generation of demonstration fuel cell hybrid vehicles. Microcab and its associates will initially manufacture 8 vehicles which will be supplied to Coventry University for participation in a 12-month trial as part of the Coventry and Birmingham Low Emissions Demonstrator project.

http://www.serenergy.com/files/assets/microcab_serenergy_press-release.pdf

Singapore to Receive Fuel Cell Bus.

Singapore's first hybrid fuel cell-battery bus, a joint research project by NTU and China's Tsinghua University, is completed and will transport athletes and officials during the Youth Olympic Games in August.

<http://fuelcellsworks.com/news/2010/06/07/ntu-completes-joint-eco-fuel-cell-bus-project-with-tsinghua-university/>

UTC Power's Bus Fuel Cell Sets Durability Records.

UTC Power has set durability records for its latest generation transit bus fuel cell system. A UTC Power PureMotion® Model 120 fuel cell powerplant aboard an Alameda-Contra Costa Transit District (AC Transit) bus operating in the Greater Oakland, California, area has surpassed 7,000 hours in service with the original cell stacks and no cell replacements, and another has exceeded 6,000 hours. Three of AC Transit's buses are equipped with UTC Power fuel cell systems and have now traveled more than

255,000 miles, with an average fuel economy that is 65 percent better than the control fleet of diesel buses running the same routes and duty cycles.

http://www.utcpower.com/fs/com/bin/fs_com_Page/0,11491,0336,00.html

Acta Unveils HIDRO.

Acta has unveiled the world's first hydrogen-powered tender (small boat), at the European Sailing Championships in Viareggio, Italy. The new tender, branded "HIDRO," runs on a hybrid battery/fuel cell outboard motor system, powered by hydrogen from Acta's hydrogen generator powered by solar PV panels. Two HIDRO tenders have been servicing sailing boats at the Championships, prior to their full commercial launch at the forthcoming Genoa Boat Show in early October.

<http://www.actagroup.it/news.asp>

Wartsila Installs SOFC for APU Aboard Ship.

Wartsila has successfully installed its WFC20 solid oxide fuel cell unit onboard the 'Undine', a car carrier, owned by Swedish Wallenius Lines and managed by Wallenius Marine. The 20kW, methanol-fueled fuel cell will provide auxiliary power to the vessel.

http://www.wartsila.com/en/press_0_pressrelease_B8CE880F-7742-401E-B249-D96D90AFA23A,A75E805D-9A41-4648-A785-0E492D799EEE,,.htm

Arcona Yachts Offering SFC Fuel Cell Option.

Arcona Yachts has selected SFC Smart Fuel Cell's EFOY fuel cells for independent power generation on board its yachts, offering the fuel cells as an optional accessory. Arcona offers the complete EFOY product range for the leisure market with charging capacities up to 2.2 kWh per day.

<http://www.efoy.com/en/press-release/11244-efoy-brennstoffzellen-ab-sofort-in-arcona-yachten-erhaeltlich.html>

Pssst...Wanna Buy a Scooter? Or Ten?

Asia Pacific Fuel Cell Technologies is offering a 10 fuel cell scooter package for \$350,000, including 10 scooters, 40 hydrogen canisters, one stationary hydrogen recharger, one portable hydrogen recharger, 10 hours training and semi-annual maintenance, with a one year or 10,000km warranty. The company recently completed a 1000km, 4-day test ride with its scooter, a world record.

<http://www.h2journal.com/displaynews.php?NewsID=441>

STATIONARY APPLICATIONS

PG&E Orders Two MW-Sized Fuel Cell Systems from FuelCell Energy.

Following the recent approval by the California Public Utilities Commission (CPUC) for Pacific Gas and Electric Company (PG&E) to pursue utility owned fuel cell installations at two California universities, PG&E has ordered two FuelCell Energy 1.4 MW DFC1500 fuel cell power plants. The fuel cells will be installed on the campuses of California State University East Bay – Hayward Hills (CSU – East Bay) and San Francisco State University (SFSU). The total value of these contracts is approximately \$12.6 million, which will include engineering, procurement and construction services for the installation of the power plants.

<http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=476221>

ClearEdge Enters into Korean Distribution Agreement.

ClearEdge Power has entered into an exclusive, three-year distribution agreement for the ClearEdge5 system with LS Industrial Systems. The US\$40 million agreement will focus on the sale, distribution and service for more than 800 ClearEdge5 fuel cell units in Korea.

<http://www.clearedgepower.com/categories/about-us/pages/press-releases>

Topsoe and Risø Receive Grant from Danish Energy Agency for SOFCs.

Topsoe Fuel Cell A/S and Risø DTU have received a grant of €7.3 million (54.5 million DKK or US\$9.1 million) from the Danish Energy Agency's Energy Technology Development and Demonstration Program (EUDP). The grant will allow the current efforts of the companies in developing solid oxide fuel cells

(SOFC) will be continued, leading to prototypes in 2012 which meet market demands for efficiency, life time and price. The project supports the Danish Micro Combined Heat and Power project.
http://www.topsoefuelcell.com/sitecore/content/Topsoe_fuel_cell/news_and_info/press_releases/250610.aspx

CASFC New Site.

The California Stationary Fuel Cell Collaborative has a new and improved website, including a map of California fuel cell installations.
<http://casfcc.org/>

PORTABLE/BACKUP POWER

Ultracell Ships Water-Resistant Fuel Cell to Military.

Ultracell has shipped its Snorkel fuel cell system with an ultra-rugged two gallon fuel tank to the U.S. military. The new Snorkel system provides a fuel cell enclosure that enables buried and camouflaged operation in a wide range of environments with UltraCell's XX25 or XX55 fuel cells. The system can be paired with a broad range of fuel containers specific to the desired mission. Up to 25,000 Watt/hr of fuel can be connected to the enclosure.

http://www.ultracellpower.com/assets/PressReleases2010/ultracell_snorkel_fuel_cell_system_6_28_10.pdf

SFC Receives Additional Order from German Military.

SFC Smart Fuel Cell AG has received another order by the German Bundeswehr for its portable JENNY fuel cell for mobile off-grid power. The order is worth more than €220,000.

<http://www.efoy.com/en/press-release/11243-sfc-erhaelt-bundeswehr-auftrag-fuer-portable-stromversorgungs-komplettlösung.html>

Arcola Energy Develops Fuel Cell Package for Theater.

London theatre company Arcola has launched a spin-off firm, Arcola Energy, that has just completed its first fuel cell system with the aid of a £27,000 grant from the UK's Technology Strategy Board. Fuel cell developer and hydrogen supplier BOC and theatrical lighting specialist White Light have developed an integrated fuel cell technology and low-energy LED lights, added industry-standard connectors, control panels and battery backup power into a portable system that is expected to be used at this summer's Latitude Festival in Suffolk, UK.

<http://www.businessgreen.com/business-green/news/2264046/london-theatre-raises-curtain>

MICRO FUEL CELLS

Horizon Launches MiniPak.

Horizon Fuel Cell Technologies has launched its new pocket-size fuel cell power plant for the portable consumer electronics markets, the MiniPak. Starting at \$99, the MiniPak's prices are expected to drop to \$29 when production increases, with extra fuel cartridges sold at prices similar to disposable alkaline batteries, and refilling costs not exceeding a few cents.

<http://www.horizonfuelcell.com/files/MinipakPR2010.pdf>

Florida University Receives Contracts From Army and DOE.

The University of North Florida's (UNF) School of Engineering has received a combined \$9.4 million in contracts, the largest amount in total contract value that the University has ever received for a technology-related research activity, from the U.S. Army CERDEC (Communications-Electronics Research, Development and Engineering Center) and the U.S. Department of Energy (DOE) for fuel cell research. The funds from the contracts will be used by UNF researchers to continue the development and commercialization of direct methanol fuel cell power sources for two laptops, one to be used by American soldiers and the other by the average consumer.

[http://www.unf.edu/ia/pr/media_relations/press/2010/UNF_School_of_Engineering_Receives_Over_\\$9M_for_Fuel_Cell_Research.aspx](http://www.unf.edu/ia/pr/media_relations/press/2010/UNF_School_of_Engineering_Receives_Over_$9M_for_Fuel_Cell_Research.aspx)

FUELS/REFORMERS/STORAGE

New Berlin Hydrogen Station Opens.

A new hydrogen fueling station in Holzmarktstrasse in Berlin, Germany, opened as part of the Clean Energy Partnership. Statoil's fully owned subsidiary Hydrogen Technologies (HT) executed the project and delivered the technology.

<http://www3.statoil.com/hydrogentechnologies/svg03816.nsf/UNID/83370836A2C14A69C125772A003211ED?OpenDocument>

Linde to Provide Two Hydrogen Stations to AC Transit.

Linde North America has contracted with AC Transit to supply the hydrogen fueling technology and the hydrogen for two new stations, which will be located at AC Transit's Emeryville and Oakland operating divisions. The stations will provide hydrogen for AC Transit's fleet of fuel cell buses.

<http://www.lindeus.com/international/web/lg/us/likelqus30.nsf/0/6A60B3264A0A27198525773B0065DFAB>

ITM Power Signs Agreements with DHL and London Airport, Makes First Sale.

ITM Power has signed agreements with both DHL Supply Chain and London Stansted Airport for Hydrogen on Site Trials (HOST) of ITM Power's transportable high pressure refueling unit (HFuel). ITM also announced its first product sale and field trial – to the University of Birmingham (UoB). The HPac@10 unit will supply hydrogen to the fuel cell laboratory, removing its dependency on bottled gas. The excess electrolytic hydrogen not used by the laboratory will be used by the UoB's fleet of fuel cell vehicles.

<http://www.itm->

[power.com/news/9/DHL+and+London+Stansted+Airport+Sign+Agreements+to+Trial+ITM+Power%92s+Refueller.html](http://www.itm-power.com/news/9/DHL+and+London+Stansted+Airport+Sign+Agreements+to+Trial+ITM+Power%92s+Refueller.html)

<http://www.itm-power.com/news/12/First+Product+Sale+and+Field+Trial.html>

Hydrogenics Selected for Grid Stabilization, Sells Electrolyzers to Australian Customers.

Hydrogenics has been selected by Ontario's Independent Electricity System Operator (IESO) to participate in the Alternative Technologies for Regulation Demonstration Project for utility-scale grid stabilization. Over a two month period, the load from a Hydrogenics HySTAT™ electrolyzer will provide regulation services within Ontario's electricity market by responding to power signals from the IESO. . Hydrogenics also sold two electrolyzers with supporting services to customers in Australia. One contract will supply a Hydrogenics HySTAT-30 electrolyzer for Queensland Energy Resources (QER) in Queensland, Australia; the second contract will provide Supagas, a large industrial gas company based in Melbourne, with a HySTAT-10 unit.

http://www.hydrogenics.com/invest/news_Details.asp?RELEASEID=483969

http://www.hydrogenics.com/invest/News_Details.asp?RELEASEID=480431

Electrolyzer Survey.

A new survey aims to identify markets, players and the status of commercialization of electrolyzers on a global scale. As an incentive to take part in the research, respondents will be offered an executive summary of the report once it is published. If your company is involved in the electrolyzer industry, please take part and go to: <http://Electrolysers.questionpro.com>.

MATERIALS/COMPONENTS/TESTING

Nuvera Signs Agreement with Xebec Adsorption.

Nuvera Fuel Cells has signed a multi-year supply agreement with Xebec Adsorption Inc. Under the terms of the non-exclusive agreement, Nuvera will purchase Xebec's proprietary H-3300 pressure swing adsorption (PSA) systems for incorporation into its PowerTap™ Hydrogen Generator and Hydrogen Stations.

http://www.nuvera.com/news/press_release-51.php

FuelCon Develops Modified Furnace Concept.

FuelCon has developed in close consultation with their customers a solution that sustainably simplifies the SOFC stack adjustment, modifies the furnace concept and provides higher accuracy for stack

positioning. The company has integrated a reflecting side as well as an automatically controlled lightening inside the furnace, which allows to easily looking at the stack from all sides. This provides not only a convenient connection of current and voltage collectors with the test item. It furthermore simplifies the connection of thermocouples for controlling and monitoring the temperature distribution inside the stack. [http://www.fuelcon.com/cms/pressemitteilungen_details.html?&L=1&tx_ttnews\[tt_news\]=269&tx_ttnews\[backPid\]=35&cHash=3b70ea8db1](http://www.fuelcon.com/cms/pressemitteilungen_details.html?&L=1&tx_ttnews[tt_news]=269&tx_ttnews[backPid]=35&cHash=3b70ea8db1)

REPORTS/MARKET STUDIES

New LBST Vehicle Study.

LBST and Fraunhofer ISI have released a new report comparing FCEVs and BEVs called *Comparing Electricity and Hydrogen as Carbon-Free Final Energy Sources* for the German electric utility RWE. The press release in English can be found at: <http://www.isi.fraunhofer.de/isi-en/service/presseinfos/2010/pri10-10.php> and the study (only in German language) can be downloaded at www.isi.fraunhofer.de/Endbericht_H2_vs_Strom-final.pdf.

New NRC Report.

National Research Council has released its third report on the FreedomCar and Fuel Partnership that presents the long-term benefits of continued federal research for development of hydrogen-fueled vehicles, a recommendation that rebuts the Obama administration's stated goal of phasing out funding for such research in favor of projects that offer near-term breakthroughs for reducing vehicle greenhouse gas emissions. According to the report, research should focus both on high-risk, high-reward vehicle technologies, such as hydrogen, as well as research on lower-risk technologies that offer less long-term promise, such advanced combustion engines. http://www.nap.edu/catalog.php?record_id=12939

Fuel Cell Vehicles.

A new Pike Research report forecasts that fuel cell transit buses will be at the vanguard of the fuel cell vehicle movement, with sales growing at a compound annual growth rate of 31.7% by 2015. Fuel cell light vehicles will be commercially launched in 2014 in most regions of the world, and their sales will reach almost 670,000 vehicles per year by 2020. <http://www.pikeresearch.com/research/fuel-cell-vehicles>

REQUESTS FOR PROPOSALS

Check out the [Fuel Cell RFPs](#) blog for more opportunities.

Third Frontier Grant Writing Seminar

Ohio's Third Frontier Program is holding a grant writing seminar on July 13th that will include everything you need to successfully win a Third Frontier Grant. Specifically, this seminar will include information on Fuel Cells, Photovoltaics, and other Advanced Energy areas. The Third Frontier Commission authorized up to \$7 million to be granted for Fuel Cell projects, \$7 million for Photovoltaic projects and \$7 million for Advanced Energy projects. One RFP covering each of these areas in the Energy Cluster will be released in July 2010 with awards expected in December 2010. Awards will be up to \$1 million, with additional funding for capital expenses. The seminar will be held at the Dublin Entrepreneur Center in Dublin, Ohio. For more information, email grusnak24514@hotmail.com.

Army Seeks Lightweight Fuel Cell Power Sources.

The U.S. Army issued a Sources Sought Notice titled "Fuel Cell: Lightweight Alternative Power Source." The notice is "intended for Market Research purposes only and is not a request for competitive proposals." The list of pre-production system requirements includes a weight limit of 37 pounds, not inclusive of the weight of the fuel. Responses to the notice are due July 2, 2010. <https://www.fbo.gov/index?s=opportunity&mode=form&id=e58fad89489bad7077c152d4607cbe74&tab=core&cvview=0>

EPA CHP Partnership.

EPA announced the availability of up to \$10 million in "Climate Showcase Communities" grants for local and tribal governments to establish and implement climate change initiatives. The Agency expects to award approximately 25 cooperative agreements ranging from approximately \$100,000 to \$500,000. Approximately 5 percent of the funds (\$500,000) are set aside for tribal governments. CHP related initiatives can qualify.

<http://www.epa.gov/statelocalclimate/local/showcase/index.html>

CEC Alternative and Renewable Fuel and Vehicle Technology Program.

The California Energy Commission is seeking to fund projects that develop infrastructure necessary to dispense hydrogen transportation fuel. The intent of this solicitation is to upgrade public and private infrastructure investments, expand the network of public-access and fleet fueling stations, and put in place infrastructure that will be needed to dispense hydrogen based on the population of existing and anticipated fuel cell vehicles (FCVs) and hydrogen internal combustion engine vehicles (HICEVs). It includes potential additional funding for stations that exceed the renewable hydrogen content standard set forth by SB 1505, exceed the minimum daily station capacity, and for stations that can achieve an accelerated establishment schedule.

<http://www.energy.ca.gov/contracts/transportation.html>

Innovative Ecosystem Development Initiative.

The U.S. Department of Energy (DOE) announced a new funding opportunity, the Innovation Ecosystem Development Initiative, to help speed innovative energy technologies from university laboratories into the market. A total of up to \$2.1 million is available for this program, which is expected to make two awards, with a maximum of \$350,000 per award annually for a three-year term. The deadline for applications is July 9, 2010.

http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=343

NSF Gulf Response.

The National Science Foundation (NSF) is encouraging all companies that have viable solutions to the Gulf of Mexico Oil spill to submit a onetime only proposal. All proposals must be submitted on or before September 30, 2010. If you have any questions, please contact Dr. Don Senich (dsenich@nsf.gov) or Mr. Kevin Simmons (kesimmon@nsf.gov). Solicitation information is available at:

http://www.nsf.gov/eng/iip/sbir/2010_ann_rapid_oil_response.pdf

MISCELLANEOUS

UK HCFA Formed.

The new UK Hydrogen and Fuel Cells Association (UK HCFA) was formed as the result of the merger of Fuel Cells UK and the UK Hydrogen Association. The new industry body will provide a common voice for the sector, advocating a positive social, political and economic environment for the development of hydrogen energy and fuel cells in the UK.

CONFERENCES

For a complete list of conferences, please go to <http://www.fuelcells.org/news/conf.html>.

f-cell 2010.

The f-cell 2010 conference takes place September 27-28, 2010, in Stuttgart, Germany. For registration or exhibitor information, please go to <http://www.f-cell.de/englisch/Home/>.

Remote 2010.

The Remote 2010 Conference and Exposition will be held October 19-20, 2010, in Dallas, Texas. For conference details, please visit <http://www.RemoteExpo.com>.

GovGreen.

The Center for Environmental Innovation and Leadership (CEIL)'s GovGreen Conference and Exhibition will be held November 9-10, 2010, at the Washington Convention Center in Washington, DC. For more information, please go to <http://www.ceileadership.org/>.

HANNOVER MESSE.

The 17th Group Exhibit Hydrogen + Fuel Cells at HANNOVER MESSE 2011 will take place April 4-8, 2011, in Hannover, Germany. For details, please visit <http://www.h2fc-fair.com/>.

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Fuel cells generate electricity without combustion by harnessing the energy released when hydrogen and oxygen are chemically combined. Fuel Cells 2000 is an independent, nonprofit activity dedicated to the commercialization of fuel cell technologies.