

# *news from* **FUEL CELLS 2000**

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## **Fuel Cells 2000's Fuel Cell Technology Update – April 2010**

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### **TRANSPORTATION APPLICATIONS**

#### **BAE Systems Developing Fuel Cell Bus for SunLine Transit.**

BAE Systems is developing a zero-emissions fuel cell bus for SunLine Transit in an effort funded by the Federal Transit Administration, CALSTART, California Air Resource Board, and California South Coast Air Quality Management District. The partnership also includes bus manufacturer EIDorado National (California) Inc. and Ballard Power Systems, the company supplying the fuel cell. The bus is scheduled for delivery in December 2011.

[http://www.baesystems.com/Newsroom/NewsReleases/autoGen\\_11022416510.html](http://www.baesystems.com/Newsroom/NewsReleases/autoGen_11022416510.html)

#### **BMW Showcases Concept Vehicle with Fuel Cell APU.**

BMW Forschung und Technik (Research and Technology) showcased a new hybrid electric vehicle that uses a 5-kW UTC Power fuel cell system at its 25th anniversary BMW ZT celebration in Munich, Germany. In addition to a four-cylinder gasoline engine, the BMW Series 1 concept vehicle has an electric power unit for city traffic and a fuel cell auxiliary power unit (APU) to generate electrical energy which is stored temporarily in high-performance capacitors.

[http://www.utcpower.com/fs/com/bin/fs\\_com\\_Page/0,11491,0333,00.html](http://www.utcpower.com/fs/com/bin/fs_com_Page/0,11491,0333,00.html)

#### **California Offering Rebate for Clean Vehicles, Clarity Included.**

California is now offering up to a \$5000 tax rebate for consumers looking to purchase a light-duty electric vehicle as part of its Clean Vehicle Rebate Project (CVRP), a program created in 2007. The new CVRP is scheduled to run through 2015 and only two vehicles capable of operating on the highway -- the Tesla Roadster and the Honda FCX Clarity hydrogen fuel cell vehicle -- qualify for the incentives.

<http://wot.motortrend.com/6623221/green/california-begins-offering-5000-tax-rebate-for-electric-vehicle-purchase/index.html#ixzz0iuT9YjXQ>

#### **Adaptive Materials Awarded \$3 Million from COEE.**

Adaptive Materials was recently awarded \$3 million through the Centers of Energy Excellence Program (COEE) to support the commercialization of its fuel cells within the consumer leisure market. Adaptive Materials is manufacturing a 250-watt unit that it is developing for the RV and consumer leisure market to provide the auxiliary power needed for TVs, radios, laptops, microwaves, and other creature comforts in an RV.

<http://www.adaptivematerials.com/adaptive-materials-awarded-3-million-centers-of-energy-excellence-funding>

#### **United Natural Foods Purchases Fuel Cells for Florida Forklift Fleet.**

United Natural Foods is adding 29 new hydrogen fuel cell-powered lift trucks, and retrofitting 36 existing lift trucks to hydrogen fuel cells at its Sarasota, Fla., distribution center. Once implemented, the project is expected to save about 640,000 kilowatt hours a year. The infrastructure for the lift trucks should be installed sometime by June.

[http://www.unfi.com/HydrogenFuelCells\\_SAR.aspx](http://www.unfi.com/HydrogenFuelCells_SAR.aspx)

#### **Raymond Becomes Distributor for Plug Power GenDrive™ Units.**

The Raymond Corporation is now an independent distributor for the sale, rental and lease of Plug Power GenDrive™ fuel cell units in North America. As an Authorized Service Provider, Raymond also will provide warranty and maintenance service on GenDrive products through its North American Sales and Service Center network. The fuel cell power units have been tested and approved for use in Raymond® Model 8400 pallet trucks, Model 4100 and 4200 stand-up counterbalanced trucks, and various Model 7400 Reach-Fork® trucks.

<http://www.plugpower.com/newsroom/pressreleases.aspx?action=details&newsid=317>

## **STATIONARY APPLICATIONS**

### **New York Allocates \$21.6 Million for Fuel Cell Projects.**

New York State's Public Service Commission has approved a \$279 million funding package for small-scale renewable energy projects over the next five years, including \$21.6 million directed towards fuel cell projects in and around the Hudson Valley and New York City. The money will come from the state's Renewable Portfolio Standard initiative, which aims to source 30% of its electricity from renewable sources by 2015.

<http://www.brighterenergy.org/6894/news/wind/new-york-solar-pv-take-up-slumps-after-rebate-cut/>

### **Ceramic Fuel Cells Expands Reach to Switzerland, UK.**

Ceramic Fuel Cells Limited (CFCL) has expanded its European operations with the sale of a BlueGen power and heating unit to Swiss utility Cosvegas, who supplies natural gas to more than one hundred municipalities in Switzerland. The fuel cell unit will operate starting in mid-2010 in Lausanne, Switzerland. CFCL also sold its first BlueGen gas-to-electricity unit in the United Kingdom (UK), to Ideal Boilers. A BlueGen fuel cell, over a year, can produce twice the electricity needed to power an average UK home. Surplus electricity can be sold back to the grid under the UK Government's feed-in tariff, effective starting April 1, 2010, which pays homeowners 10 pence (around 15 cents) for every kilowatt hour of electricity generated plus an additional 3 pence for every kilowatt hour of electricity exported to the local power grid. Ideal Boilers will test and demonstrate the BlueGen unit at its product development and manufacturing facility in Hull, England.

[http://www.cfcl.com.au/Assets/Files/20100317\\_CFCL\\_Cosvegas\\_BlueGen\\_17March2010.pdf](http://www.cfcl.com.au/Assets/Files/20100317_CFCL_Cosvegas_BlueGen_17March2010.pdf)

[http://www.cfcl.com.au/Assets/Files/20100401\\_CFCL\\_Ideal\\_BlueGen\\_1April2010.pdf](http://www.cfcl.com.au/Assets/Files/20100401_CFCL_Ideal_BlueGen_1April2010.pdf)

### **Korea Passes RPS that Includes Fuel Cells.**

Korea recently passed a Renewable Portfolio Standard (RPS), requiring 4 percent clean energy generation by 2015 and 10 percent by 2022. The program, which will become effective in 2012, will mandate 350 megawatts (MW) of additional renewable energy per year through 2016, and 700 megawatts per year through 2022. Carrying forward the policy introduced in 2006 under Korea's feed-in tariff program, the government has elected to designate fuel cells operating on natural gas and biogas as "New and Renewable Energy," fully qualifying under the new program.

<http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=454350>

## **PORTABLE/BACKUP POWER**

### **Lights, Camera, Fuel Cell!**

Alteryg Systems' Freedom Power™ Systems became a star of its own at the 82nd annual Oscars® by becoming the first hydrogen fuel cell power systems used to power numerous applications at the Academy Awards® ceremonies. Alteryg's fuel cell system provided clean "off the grid," electricity to fulfill various power requirements at the Oscars® red carpet ceremony and another Alteryg 5-kW fuel cell was used as the power source of a unique new portable lighting system which was also employed throughout the week for specific lighting demands at Hollywood's biggest awards ceremony.

[http://www.alteryg.com/announcements/power\\_the\\_Academy\\_Awards.asp](http://www.alteryg.com/announcements/power_the_Academy_Awards.asp)

### **Adaptive Materials Receives DoD Contract.**

Adaptive Materials was recently awarded a \$4.7 million contract to develop a 300-watt fuel cell system for the Department of Defense (DoD). This contract award also includes three option phases that, if awarded, could include delivery of more than 100 fuel cells, increasing the total value of the contract to

\$5.6 million. The fuel cell systems that Adaptive Materials will deliver to the U.S. Army will provide a lightweight, portable power and energy resource that soldiers can use to charge battery-powered devices in the field.

<http://www.adaptivematerials.com/internal.php?sid=5&nid=66>

### **SFC Smart Fuel Cell and Evergreen Develop Power Pod System, SFC Launches EFOY Pro 2200 XT.**

SFC Smart Fuel Cell AG and Evergreen Energy Technologies Inc. have joined forces to market a fuel cell stand-alone power solution for remote monitoring and service of oil and gas well sites in Canada. The "Power Pod System", developed by Evergreen Energy Technologies, would replace pneumatic devices at well sites and is powered by a hybrid combination of SFC's EFOY Pro fuel cell and solar. This innovative solution just received a funding award of CAN\$50,000 under the "Alberta Innovation Voucher Pilot Program" by the Government of Alberta that funds projects with environmentally friendly and energy efficient technologies in Western Canada. SFC also launched the EFOY Pro 2200 XT, specifically developed for demanding needs of professional users and provides week-long reliable energy to traffic management systems, traffic and security cameras to measurement and early warning sensors.

<http://www.sfc.com/en/sfc-press-release/11153-sfc-smart-fuel-cell-und-evergreen-energy-technologies-inc.-partnerschaft-zur-foerderung-sauberer-brennstoffzellentechnologie-fuer-oel-und-g>

<http://www.sfc.com/en/sfc-press-release/11152-sfc-smart-fuel-cell-launcht-efoy-pro-2200-xt-brennstoffzelle-fuer-stromversorgung-von-netzfernen-industrieanwendungen.html>

### **Dantherm Joins with Leap Power, Introduces New 5-kW System.**

Dantherm Power Inc., Denmark is introducing a high density 5-kW redundant fuel cell power system as well as its new partnership with Leap Power LLC to accelerate commercialization of its fully integrated fuel cell product line. Dantherm and Leap have agreed to form the Partnership to aggressively market fuel cell products to North American telecom service providers, data centers, and solar power generation plants.

<http://www.dantherm-power.com/Home.aspx?M=News&PID=185458&NewsID=429>

### **UPS Systems Adds EFOY to Product Portfolio.**

UPS Systems plc added SFC Smart Fuel Cell's EFOY Pro 2200 methanol fuel cell to its product portfolio. The fuel cell generates 90W of electricity and is suitable for a range of prime and standby power applications.

<http://www.upssystems.co.uk/news.php>

## **MICRO FUEL CELLS**

### **FUELS/REFORMERS/STORAGE**

#### **FuelCell Energy Awarded \$2.1 Million from Air Products for Renewable Hydrogen Station.**

FuelCell Energy, Inc. is receiving subcontract awards totaling \$2.1 million from Air Products to demonstrate an Air Products' concept which incorporates FuelCell Energy's DFC-H2® technology in a hydrogen fueling station. The original contract was awarded to Air Products by the California Air Resources Board and supported by the South Coast Air Quality Management District, and U.S. Department of Energy (DOE). The hydrogen will supply the state-of-the-art hydrogen fueling station developed and to be installed by Air Products at the Orange County Sanitation District's (OCSD) wastewater treatment facility in Fountain Valley, California. The system will be fueled with biogas from wastewater treatment operations and produce 300 kilowatts of power and up to 300 pounds of hydrogen per day.

<http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=451034>

#### **Hydrogenics to Deliver Two Electrolyzers to Linde Group.**

Hydrogenics Corporation has been awarded a contract for two HySTAT-60 electrolyzers by the Linde Group for installation as part of a fueling station in HafenCity, Hamburg. The fueling station will be integrated and managed by Vattenfall and is expected to supply hydrogen for both cars and buses,

including the new Mercedes Citaro zero-emission fuel cell bus. The Hydrogenics HySTAT-60 units will, combined, produce about 260 kilograms of fuel daily. The station is expected to be completed in 2011. [http://www.hydrogenics.com/invest/News\\_Details.asp?RELEASEID=454589](http://www.hydrogenics.com/invest/News_Details.asp?RELEASEID=454589)

#### **Greenland's First Renewable Energy Hydrogen Plant Opens.**

The first hydrogen plant for renewable energy storage in Greenland was opened recently. H2 Logic A/S from Denmark has developed and delivered the hydrogen plant which is owned and operated by the national energy company Nukissiorfiit. The plant produces renewable hydrogen by electrolysis and stores the hydrogen in a fuel cell for later use.

<http://www.h2logic.com/com/shownews.asp?lang=en&id=307>

#### **New Hydrogen Station Coming to Delaware.**

The city of Claymont is expected to receive Delaware's first public-usage, hydrogen-based auto fueling station. SunHydro Fuel Stations is building a "hydrogen highway," constructing 11 stations on the East Coast from Maine to Florida. The Claymont station will be open within the next 12 months and will generate hydrogen by a solar array.

<http://www.delawareonline.com/article/20100319/BUSINESS/3190322/1003>

#### **Hy9 to Provide Purifier for Mobile Hydrogen Refueling Station.**

Hy9 Corporation announced the sale of its HPS industrial scale hydrogen purifiers for use in ITM Power's Transportable Hydrogen Refueling Station. Hy9's HPS purification system will deliver hydrogen in excess of 99.9999% purity, ensuring ITM systems meet the latest stringent ISO standards for fuel purity and work seamlessly with hydrogen internal combustion and fuel cell vehicles.

<http://hy9.com/news.html>

#### **Microcell Launches First Hydrogen.**

Microcell Corporation has created a new company, First Hydrogen, Inc., to pursue the development and commercialization of a novel renewable hydrogen generation technology. The technology will be based on a new class of nano-cells capable of producing hydrogen fuel suitable for low temperature PEM fuel cells from a wide range of commonly available, renewable, and non-fossil energy sources.

<http://www.microcellcorp.com/news.html#>

### **MATERIALS/COMPONENTS/TESTING**

### **REPORTS/MARKET STUDIES**

### **REQUESTS FOR PROPOSALS**

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

#### **NSF SBIR/STTR Includes Advanced Materials, Hydrogen Production Topics.**

The National Science Foundation (NSF) issued its 2010 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) solicitation, which includes topics and subtopics related to fuel cells, hydrogen production from biomass, hydrogen storage, and high-temperature materials. A total of \$45 million is expected to be available for 200 to 300 Phase I awards of up to \$150,000 each. Full proposals are due June 9, 2010.

[http://www.nsf.gov/funding/pgm\\_summ.jsp?pims\\_id=503361&org=IIP&from=home](http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503361&org=IIP&from=home)

#### **California Clean Energy Business Financing Program.**

The California Business, Transportation, and Housing Agency will make more than \$30 million available to eligible California manufacturing businesses under the Clean Energy Business Financing Program (CEBFP). The program "is open to California businesses that want to expand, diversify or retool existing facilities to manufacture eligible energy efficiency or renewable energy products, components, systems,

and technologies." Loans will be a minimum of \$50,000 to a maximum of \$5 million per applicant. Application forms will become available March 29, 2010. Applications will be competitively awarded until all funds are exhausted.

<http://www.energy.ca.gov/recovery/cleanenergy.html>

## **MISCELLANEOUS**

### **CONFERENCES**

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

#### **Green Fuels & Vehicles China 2010.**

Green Fuels & Vehicles China 2010: The Innovation & Industrialization in the Coexistence Era of Alternative & Conventional Vehicles will be held April 8-9, 2010, in Shanghai, China. For conference information, please visit <http://www.igvision.com/gfvc/>.

#### **Small Fuel Cells 2010**

Small Fuel Cells 2010: Portable & Micro Fuel Cells & Hybrid Devices for Commercial & Military Applications will be held April 12-13, 2010, in Cambridge, Massachusetts. For details, please go to <http://www.knowledgefoundation.com>.

#### **HANNOVER MESSE 2010.**

The 16th Group Exhibit Hydrogen + Fuel Cells HANNOVER MESSE 2010 will take place April 19-23, 2010, in Hannover, Germany. For exhibition information, please visit <http://www.h2fc-fair.com/>.

#### **NHA Hydrogen Conference & Expo.**

The 2010 NHA Hydrogen Conference & Exposition will be held May 3-6, 2010, in Long Beach, California. For conference details, please visit <http://www.hydrogenconference.org/>.

#### **ASME Fuel Cell Conference.**

The Eighth Annual ASME Fuel Cell Science, Engineering and Technology Conference will be held June 14-16, 2010, at the Marriott Brooklyn Bridge in Brooklyn, New York. To register, please go to <http://www.asmeconferences.org/FuelCell2010/ConfRegistration.cfm>.

#### **ICH2P-2010.**

The International Conference on Hydrogen Production (ICH2P- 2010) "With Emphasis on Storage and Safety" will be held in Istanbul, Turkey, on June 16-18, 2010. For more information, please visit <http://www.ich2p.org>.

#### **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>.

#### **Fuel Cell Seminar.**

The 2010 Fuel Cell Seminar & Exposition will be held October 18-22, 2010 in San Antonio, Texas. Information about the Seminar will be posted soon at <http://www.fuelcellseminar.com/>.

*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.*