

news from **FUEL CELLS 2000**

Fuel Cells 2000's Fuel Cell Technology Update – February 2011

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TRANSPORTATION APPLICATIONS

Toyota Announces Fuel Cell Vehicle Demonstration Program in U.S., Airport Shuttle Program in Japan.

Toyota Motor Sales, USA, Inc. will place more than 100 Toyota Fuel Cell Hybrid Vehicle – Advanced (FCHV-adv) vehicles with universities, private companies and government agencies in both California and New York over the next three years. As new hydrogen stations come online, additional regions and partners will be added. Toyota's FCHV-adv vehicles will also become part of a car-service trial program with All Nippon Airways Co., Ltd. and Welcome-Home Limousine Taxi Service at Narita Airport in Tokyo, Japan. The FCHV-adv's will be used to transport passengers returning to Japan from Europe and the U.S.

<http://pressroom.toyota.com/pr/tms/toyota/toyota-fuel-cell-vehicle-demonstration-151146.aspx>
<http://green.autoblog.com/2011/01/26/toyota-test-fuel-cell-vehicles-narita-airport-japan/>

Mercedes-Benz Sets Off on 125-Day Fuel Cell Driving Tour.

Mercedes-Benz just began the F-CELL World Drive, a 125-day journey driving its F-CELL B-Class vehicles through four continents, fourteen countries and a wide range of climates and driving conditions. Linde will provide the hydrogen for the vehicles during the trip.

http://mercedes-benz-blog.blogspot.com/2011/01/mercedes-benz-at-2011-detroit-autoshow_8038.html

Ballard Receives Order from Brazil Bus Integrator.

Ballard Power Systems received a contract to supply three fuel cell power modules to Tuttotrasporti, the largest Brazilian integrator of hybrid transit buses for use in zero-emission buses operated by transit agencies in Brazil.

<http://phx.corporate-ir.net/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1513361&highlight=>

Oorja Installs Units at EARP Distribution, Receives Additional Order from Martin-Brower.

Oorja Protonics has installed 24 OorjaPac Model III fuel cell systems towards to fully convert EARP Distribution's entire pallet jack fleet. EARP Distribution is the sole wholesale provider of foods and goods to approximately 450 restaurants. Oorja also received the second purchase order in six months from the Martin-Brower Company, L.L.C. (Martin-Brower) for the OorjaPac Model I for its Stockton California facility.

http://www.oorjaprotonics.com/news/press_releases/11811_Oorja_EARP_Press_Release.pdf
http://www.oorjaprotonics.com/news/press_releases/100107_Martin_Brower_and_Oorja_Joint_Press_Release.pdf

Plug Power Receives Follow-on Orders from Coca-Cola, Sysco.

Coca-Cola Refreshments has purchased a new fleet of 37 Plug Power GenDrive™-powered Caterpillar lift trucks at Coca-Cola's 250,000 sq. ft. bottling and distribution center in San Leandro, California. By

removing the infrastructure associated with the lead-acid battery charging, changing and maintenance, Coca-Cola will recover more than 2,000 square feet of facility space to use for other business operations. Plug Power also received a third purchase order from Sysco Corporation for its Front Royal Virginia Baugh Northeast Co-op, Inc. redistribution facility. 100 GenDrive™ hydrogen fuel cell units will power the electric lift truck fleet in the 800,000 sq. ft. redistribution center.

http://www.plugpower.com/news/pressreleases/11-01-13/COCA-COLA_REFRESHMENTS_TO_USE_PLUG_POWER_GENDRIVE_FUEL_CELLS_AT_CALIFORNIA_BOOTLING_CENTER.aspx

http://www.plugpower.com/news/pressreleases/11-01-19/ANOTHER_SYSCO_DISTRIBUTION_CENTER_CONVERTS_TO_PLUG_POWER_GENDRIVE_FUEL_CELLS.aspx

AeroVironment's UAV Completes First Flight.

AeroVironment, Inc.'s Global Observer™ unmanned aircraft system successfully completed its historic first flight powered by the aircraft's hydrogen-fueled propulsion system at Edwards Air Force Base (EAFB) in California. This milestone marks the beginning of high altitude, long endurance flight testing for the demonstration and operational utility phase of the Joint Capability Technology Demonstration (JCTD) program. The flight lasted for four hours and reached an altitude of 5,000 feet above sea level over the United States Air Force Flight Test Center at EAFB.

http://www.avinc.com/resources/press_release/global_observer_aerovironments_extreme_endurance_unmanned_aircraft_system_a

STATIONARY APPLICATIONS

Korea Issues Final Ruling on Renewable Portfolio Standard.

The South Korean Ministry of Knowledge Economy issued the final ruling providing the funding mechanism for new & renewable (NRE) power sources under the Renewable Portfolio Standard (RPS) announced last March. Fuel cells operating on natural gas and renewable biogas earned a prominent position within the pricing mechanism due to their efficient and reliable generation of clean power.

<http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=543619>

Kaiser Permanente to Install 4 MW of Bloom Energy Fuel Cells, Bloom Offers Bloom Electrons Purchasing Service.

Kaiser Permanente will deploy 4 MW of Bloom Energy Bloom Boxes fuel cell systems at seven facilities in California by the end of this year. Kaiser Permanente agreed to purchase energy through Bloom Electronssm service, a power purchase agreement with Bloom Energy, which will install, own, and operate all of the Bloom Boxes. The fuel cells will run on natural gas, with the potential to run on 100 percent directed biogas, a non-fossil methane derived from landfills or manure. Meanwhile, Bloom Energy has agreed to supply the utility natural gas transmission network with biogas, in an effort to offset greenhouse gas emissions at Kaiser Permanente's facilities. The Bloom Electronssm service allows customers to lock in their electricity rates for 10 years, delivering fixed predictable costs and significant savings versus the grid with no initial investment. Bloom manages and maintains the systems on the customers' sites and the customers pay only for the electricity consumed.

<http://xnet.kp.org/newscenter/pressreleases/nat/2011/012011fuelcells.html>

<http://c0688662.cdn.cloudfiles.rackspacecloud.com/downloads-pdf-release-bloom-electrons-1-20-2011.pdf>

Cox Installs Two UTC Fuel Cells at Headquarters.

Cox Communications has completed construction of two biogas-powered UTC Power PureCell Model 400 fuel cells totaling 800 kW at the company's San Diego headquarters. One fuel cell will provide 100% of the electrical load for one building, and the second fuel cell will provide nearly 60% of the electrical requirement for the main building.

<http://www.businesswire.com/news/home/20110113006703/en/Cox-Communications-Completes-Alternative-Energy-Project-San>

Ceramic Fuel Cells Signs Agreement with Hills Holdings.

Ceramic Fuel Cells Limited has signed an agreement with Hills Holdings Limited for Hills to sell and service Ceramic Fuel Cells' BlueGen gas-to-electricity units, initially in South Australia. Hills will also provide installation and after-sales service for BlueGen products Australia-wide and will help Ceramic Fuel Cells to develop the market for BlueGen.

http://www.cfcl.com.au/Assets/Files/20110124_CFCL_Agreement_with_Hills_Holdings.pdf

ClearEdge Receives \$1 Million from SoCalGas.

ClearEdge Power received a \$1 million investment from Southern California Gas Co. to help develop its combined heat and power stationary fuel cell for home and businesses in California. ClearEdge also has plans to expand its market to New York sometime this year.

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

VTT Develops Natural Gas SOFC System.

VTT Technical Research Centre of Finland has built a solid oxide fuel cell (SOFC) system that uses 10 kW planar SOFC fuel cells to produce grid electricity from natural gas. The system is currently undergoing endurance testing to determine component reliability, durability and development needs. Lappeenranta University of Technology and Aalto University are among those participating in the project, which is coordinated by VTT and jointly funded by Tekes - the Finnish Funding Agency for Technology and Innovation through its Tekes Fuel Cell Program as well as Finnish industrial companies.

<http://www.vtt.fi/news/2011/01052011-sofc.jsp?lang=en>

PORTABLE/BACKUP POWER

Multiquip Introduces Fuel Cell Light Tower, Powers Golden Globes with Alteryg Systems.

Multiquip introduced the first hydrogen fuel cell powered light tower that can be operated indoors for up to 50 hours at a noise level of 43 decibels at 23 feet. Multiquip joined with Alteryg Systems on the lighting system that worked the red carpet at the Golden Globe Awards.

http://www.multiquip.com/multiquip/mq-news_5659_ENU_HTML.htm

http://www.multiquip.com/multiquip/mq-news_5707_ENU_HTML.htm

ACAL Readies for Installation.

ACAL Energy and its development partners are preparing to install its first FlowCath® fuel cell technology system to be used in a practical application at Solvay Interlox Ltd, Warrington site. The field trial system is planned for installation in summer 2011, and will provide critical back-up power for an environmental remediation plant.

<http://www.acalenergy.co.uk/news/17/>

Adaptive Materials Acquired by Electronics Holdings.

Adaptive Materials has been acquired by UK-based Ultra Electronics Holdings plc. Adaptive Materials will continue to develop and manufacture its propane-powered solid oxide fuel cell systems from its current Ann Arbor, Michigan facility.

<http://www.adaptivematerials.com/>

MICRO FUEL CELLS

MILITARY APPLICATIONS

UltraCell Awarded CERDEC Contract.

UltraCell was awarded a contract from the U.S. Army Communications-Electronics Research, Development, and Engineering Center (CERDEC) to advance a 150-watt fuel cell system for the Coalition Warfare Program (CWP). The contract award is valued at US\$999,000.

http://ultracellpower.com/assets/PressReleases2011/UltraCell_CWP_12-jan-11.pdf

FUELS/REFORMERS/STORAGE

Japanese Automakers and Energy Companies Announce Commitment to Creating Hydrogen Infrastructure.

Ten Japanese energy companies committed to build up to 100 hydrogen stations in four Japanese cities to support commercial sales of fuel cell vehicles from Toyota, Nissan and Honda. Early volumes are expected to be in the thousands of vehicles. The Japanese companies said their action was a response to upcoming stricter government regulations to reduce CO₂ emissions in the transportation sector in Japan. The first stations will be deployed Tokyo, Nagoya, Osaka and Fukuoka and expand nationwide as vehicles are deployed.

http://www.japancorp.net/article.asp?Art_ID=23603

METI Launches Hydrogen Town Project.

Under its Hydrogen Energy Social Infrastructure Development Demonstration Project Japan's Ministry of Economy, Trade and Industry (METI) has launched a new hydrogen supply project, the Hydrogen Town Project. For the Town Project, Kitakyushu Hydrogen Station in Fukuoka prefecture, the first station in Japan (and third in the world) where high-pressure hydrogen is supplied to the station through a pipeline, will install pipelines to deliver hydrogen for fuel cells installed at commercial and public facilities as well as residences in the area. The hydrogen comes from Nippon Steel Corporation

http://www.meti.go.jp/english/press/2011/0113_02.html

Hydrogenics to Install Hydrogen Station in Turkey.

Hydrogenics Corporation will install a complete electrolysis based hydrogen fueling station capable of producing 65 kilograms of hydrogen per day at Golden Horn, the historic inlet of the Bosphorus, in Istanbul, Turkey and be used for both land and sea transportation applications. The award was made by The International Centre for Hydrogen Energy Technologies (ICHET), a project of the United Nations Industrial Development Organization (UNIDO).

http://www.hydrogenics.com/invest/news_Details.asp?RELEASEID=543663

Isle of Man Joins ITM Power's HOST.

ITM Power has received CE certification of its HPac electrolyzer, the largest of its four electrolyzer products. In other ITM news, The Department of Infrastructure of the Isle of Man Government has signed an agreement to participate in the Hydrogen on Site Trials (HOST) of ITM Power's transportable high pressure refueling unit (HFuel).

<http://www.itm-power.com/news/56/HPac+Product+Achieves+CE+Certification.html>

<http://www.itm-power.com/news/52/IoM+Gov+Joins+HOST.html>

MATERIALS/COMPONENTS/TESTING

Apple Receives Liquidmetal Patent.

Apple has been awarded its first patent related to use of the Liquidmetal alloy from Liquidmetal Technologies, a company it previously signed an exclusive agreement with in 2010. Apple is speculated to be interested in Liquidmetal for use as a collector plate in a fuel cell.

<http://www.examiner.com/technology-in-national/apple-receives-patent-for-liquidmetal-fuel-cell-collector-plate>

TesSol Chooses Russian Distributor.

TesSol, Inc. has selected ACTAN, Ltd. as its distributor for the Fideris™ Brand of testing, process control, and laboratory automation equipment and software for Russia and the Commonwealth of Independent States (CIS).

<http://www.fideris.com/>

REPORTS/MARKET STUDIES

Deloitte Hydrogen Podcast Predicts 2011 Success.

In a new podcast, Deloitte predicts that the clean standby power generation in the telecommunications industry and materials handling markets will spur the hydrogen industry to prosper in 2011.

http://www.deloitte.com/view/en_GX/global/industries/technology-media-telecommunications/tmt-predictions-2011/technology/92918b350807d210VgnVCM2000001b56f00aRCRD.htm

European Stationary Fuel Cells Markets

European Stationary Fuel Cells Markets from Frost & Sullivan reviews the present scenario of the stationary fuel cells market in Europe, as well forecast commercialization, future revenues, installed capacity and unit sales of the stationary fuel cell systems.

http://www.researchandmarkets.com/product/917bee/european_stationary_fuel_cells_markets

Hydrogen Fuels.

Hydrogen Fuels - Global Market Size, Technology Road-Map, Regulations, Competitive Landscape and Pricing Analysis to 2020, a report from ASDReports, gives an overview of the global hydrogen fuel cells market and the key factors impacting the market.

http://www.asdreports.com/shopexd.asp?id=9523&utm_source=Energy_Reports&utm_medium=email&utm_campaign=RP_Energy

REQUESTS FOR PROPOSALS

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

Several Tribal Land Opportunities.

The U.S. Department of Energy's Tribal Energy Program issued several Funding Opportunity Announcements (FOA). The first, "First Steps Toward Developing Renewable Energy and Energy Efficiency on Tribal Lands" is offering grants for "strategic planning, energy options analysis, energy organization development, and human capacity building related to sustainable energy efficiency implementation and/or renewable energy development." The second, is for Energy Efficiency Development and Deployment in Indian Country. The FOA will support feasibility studies and installation projects. Successful applications must demonstrate the potential of at least a 30% reduction in building energy use. Renewable energy applications will not be considered under this announcement. The third is for Renewable Energy Development and Deployment in Indian Country. The FOA will support feasibility studies, pre-construction/development activities, and deployment of renewable energy power projects. Successful applications "must demonstrate the potential power production (electricity) of at least 1 MW or meet a minimum of 30% of a building(s) electrical or heating and cooling load."

<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000422&agency=DOE>

<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000423&agency=DOE>

<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000424&agency=DOE>

MISCELLANEOUS

CONFERENCES

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

Fuel Cell and Hydrogen Energy 2011 Conference and Expo.

The Fuel Cell and Hydrogen Energy 2011 Conference and Expo (formerly the NHA Hydrogen Conference) will be held February 13-16, 2011, at the Gaylord National Hotel and Conference Center in the greater Washington, DC area. For conference details, please visit

<http://www.hydrogenconference.org/index2.asp>.

FC Expo.

The 7th International Hydrogen and Fuel Cell Expo (FC Expo) will be held March 2-4, 2011, at Tokyo Big Sight in Tokyo, Japan. For more information, please go to <http://www.fcexpo.jp/en/>.

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/>.

ACT Expo.

The ACT Expo "The Alternative Clean Transportation Expo," will take place at the Long Beach Convention Center in Long Beach, California, on May 4-6, 2011. For more information, please visit <http://www.actexpo.com/>.

WHTC2011.

The 4th World Hydrogen Technologies Convention (WHTC2011) will be held in Glasgow, Scotland, on September 14-16, 2011. For more details, please go to <http://www.whtc2011.org.uk/>.

EFEF2011.

The European Future Energy Forum 2011 will take place October 4-6, 2011, in Geneva, Switzerland. For information, please visit http://www.europeanfutureenergyforum.com/Exhibition?campaign=wizemail&dm_i=7PM,CLND,2RYCAM,ZSBV,1.

Ecobuild.

The 7th annual Ecobuild America Show will take place in the Washington, DC Convention Center, December 6-8, 2011. For more information, please go to <http://www.aecocobuild.com/>.

Piero Lunghi Conference.

The 4th Edition of the European Fuel Cell Technology & Applications Piero Lunghi Conference takes place at the Fontana di Trevi Conference Center in Rome, Italy, December 14-16, 2011. For conference details, please visit <http://www.europeanfuelcell.it/>.

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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.