

The logo features the words "FUEL CELL TECHNOLOGY" in a large, bold, black sans-serif font. A blue curved line arches over the text. To the right of the text is a yellow-to-orange gradient circle containing the letters "UP". To the right of the circle, the word "DATE" is written in a smaller, black, spaced-out sans-serif font.

FUEL CELL TECHNOLOGY UPDATE

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

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Have you been to www.fuelcells.org recently? Please take a minute to check out our website and let us know what you like and don't like about it. What would you like to see more of? We are about to embark on an effort to redesign and reorganize the massive beast that is our website to ensure our visitors can easily find the best and most useful fuel cell information. Any suggestions or comments, good or bad, are welcome. Please drop a line to Jennifer Gangi at jennifer@fuelcells.org and let us know what type of materials and resources are valuable for you and your company.

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TRANSPORTATION APPLICATIONS

President Obama Announces New Fuel Economy Standards, Includes Fuel Cell Vehicles.

President Obama announced a historic agreement with thirteen major automakers to pursue the next phase in the Administration's national vehicle program, increasing fuel economy to 54.5 miles per gallon for cars and light-duty trucks by Model Year 2025. Fuel cell vehicles were mentioned under advanced technologies that represent "game changing" performance improvements.

<http://www.whitehouse.gov/the-press-office/2011/07/29/president-obama-announces-historic-545-mpg-fuel-efficiency-standard>

Vision Receives LOI for a Hundred Fuel Cell Trucks.

Vision Industries Corp. has received a Letter of Intent (LOI) from Total Transportation Services, Inc. (TTSI) of Rancho Dominguez, California, to purchase one hundred zero emission Tyrano™ hydrogen fuel cell-electric class 8 heavy-duty trucks at a total purchase price of approximately US\$27 million. The LOI also opens the door for TTSI to purchase an additional three hundred Vision trucks.

<http://198.171.140.35/news/letterofintent-TTSI.html>

APFCT Wins Taiwan Contract for 80 Fuel Cell Scooters.

APFCT won a project contract from the Taiwan Board of Energy to build a fleet of 80 fuel cell scooters for demonstration and validation of fuel cell technologies. The scooters will be used in real world settings and expected to be delivered next summer.

http://www.apfct.com/article_cat.php?act=view&no=26

Ballard Receives Purchase Order from Plug Power.

Ballard Power Systems has received a purchase order commitment from Plug Power Inc. for a minimum of 3,250 fuel cell stacks over the next 18-month period, for use in Plug Power's line of GenDrive® systems for class-1, -2 and -3 forklift trucks for the North American materials handling market. The deal – structured under an existing equipment supply agreement between the companies that runs through

2014 – calls for Plug Power's minimum purchase of 3,250 Ballard fuel cell stacks by the end of 2012, with power levels ranging from 1.5 kilowatts to 20.0 kilowatts each.

<http://www.ballard.com/about-ballard/newsroom/news-releases/news06271102.aspx>

Horizon Fuel Cell Leads Two Singapore Teams to Victory at Shell Ecomarathon.

Two student teams from Singapore, NUS and Ngee Ann Polytechnic, won awards for their vehicles using Horizon Fuel Cell Technologies' new 1 kW hydrogen fuel cell system at the Shell Ecomarathon Asia in Malaysia. The event brought together 94 student teams from 12 countries all over Asia, to design and build energy efficient vehicles. Ngee Ann Polytechnic won the E-Mobility Class Hydrogen award in the Prototype category and the National University of Singapore won the same award in the Urban Concept category. The Ngee Ann Polytechnic team set a new record in its class of 84.9 km/kWh.

<http://www.horizonfuelcell.com/file/EcomarathonAsia2011.pdf>

Boat with Fuel Cell APU Wins AZAB Race.

The Taika, a boat with a SFC Energy EFOY 2200 fuel cell providing auxiliary power won the 2011 Azores and Back (AZAB) race. AZAB is held every four years, and is hosted by the Royal Cornwall Yacht Club. This year 60 competitors took part in the 2,500 mile race from Falmouth to Azores and back again. Helmed by Chris Tibbs and Don Wright, the methanol-fueled fuel cell was supplied by Fuel Cell Systems. and generated 90W of electricity to power the boat's navigation and communication equipment.

<http://fuelcellsystems.co.uk/>

STATIONARY APPLICATIONS

Bloom to Install 7.5 MW at Eleven AT&T Sites.

Bloom Energy will install 7.5 MW of its Bloom Energy Servers at eleven AT&T sites in California, including Corona, Fontana, Hayward, Pasadena, Redwood City, Rialto, San Bernardino, San Diego, San Jose, and San Ramon.

<http://www.att.com/gen/press-room?pid=20303&cdvn=news&newsarticleid=32150&mapcode=mk-att-sustainability>

NTT America Purchases 500 kW of Bloom Fuel Cells.

The U.S. division of Japanese telecommunications company NTT, NTT America, has deployed five Bloom Energy Servers (500 kW) at its Lundy Data Center in San Jose, California. NTT America says it will use biogas (gas generated by decomposing organic material) produced at a California dairy farm as fuel for the Bloom fuel cells.

<http://www.us.ntt.com/en/about-us/newsroom/press-releases/press-releases/article/ntt-america-deploys-bloom-energy-servers-running-on-renewable-biogas-at-san-jose-data-center.html>

Nedstack's 1 MW Fuel Cell Delivered to Solvay, Stacks Complete 10,000 Hours.

Nedstack delivered its 1 MW PEM fuel cell power plant to Solvay's chlorine plant in Lillo (near Antwerp). The PEM Power Plant will use the byproduct hydrogen from the chlorine plant. In other news, Nedstack recently reached an important milestone by completing 10,000 hours of operation with its PEM fuel cell stacks at AkzoNobel's chlor-alkali plant in the Netherlands. The stacks are expected to last as long as 20,000 hours.

http://www.nedstack.com/images/stories/news/documents/press%20release%20solvay%20powerplant_nl.pdf

<http://www.nedstack.com/images/stories/news/documents/nedstack%20fuel%20cells%20survive%2010000%20hours%20of%20industrial%20operation%20v%20%20ppr.pdf>

CFCL Signs Distribution Deal with Sanevo, Zestiq; German Government Approves Funding for 200 Fuel Cells.

Ceramic Fuel Cells Limited (CFCL) has signed a distribution agreement with Sanevo Lizenz-GmbH & Co. KG to market, sell, install and service BlueGen fuel cell systems in parts of Germany and Austria.

Sanevo has placed an initial order for 100 BlueGen units to be delivered in the first year, with a target minimum order of 500 units for delivery in the second year and a target of 2000 units over years three and four. CFCL also signed a distribution agreement with Zestiq B.V., for Zestiq to market and sell

Ceramic Fuel Cells' BlueGens in The Netherlands. In other CFCL news, the German Government has formally approved funding for an order of up to 200 CFCL integrated power and heat generators from German energy service provider EWE. CFCL will supply its Gennex fuel cell module and related components to its local manufacturing partner, Gebrüder Bruns Heiztechnik GmbH, which is integrating the fuel cell module with a boiler into an integrated power and heating product for supply to EWE. EWE will then install the units in homes in the Lower Saxony region in northern Germany.

http://www.cfcl.com.au/Assets/Files/20110725_Sanevo_Germany_orders_100_BlueGen_units_25July2011.pdf

http://www.cfcl.com.au/Assets/Files/20110721_Zestiq_BlueGen_final_21July2011.pdf

http://www.cfcl.com.au/Assets/Files/20110720_EWE_funding_approval_20July2011.pdf

Stone Edge Farm Installs ClearEdge Fuel Cell at Winery.

Stone Edge Farm, an organic farm and winery located in Sonoma Valley, California, has installed a 5-kW ClearEdge Power ClearEdge5 fuel cell system to provide combined heat and power (CHP) to the winery's estate and vineyard, helping reduce the energy required to run the irrigation system and lights and warming the 11,000-gallon lap pool. The ClearEdge5 is expected to save the winery 49% on its electricity bill and eliminate 24,000 pounds of CO₂ per year. The \$65,000 unit (after several state and federal incentives) will allow Stone Edge to save more than \$250,000 on total energy costs over a 20-year period. The fuel cell system is predicted to pay for itself in about eight years, less time than required for recovering the cost of a solar system.

<http://clearedgepower.com/news/press-releases>

Japanese FY11 Residential Fuel Cell Subsidies Run Dry with Increased Orders.

Due to increased demand following the earthquake, tsunami and nuclear catastrophe, orders for Japan's residential fuel cell product, ENE-FARM, greatly expanded, running through FY 2011 funding for subsidies eight months earlier than anticipated. The funding was allocated for 8,000 units, which was reached in July.

<http://www.asiacleantechgateway.com/2011/07/japanese-fy11-home-fuel-cell-subsidies-already-used-up-amidst-soaring-post-quake-demand/>

PORTABLE/BACKUP POWER

Dantherm Signs Collaborative Agreement with Delta Power Solutions.

Dantherm Power signed a collaboration agreement with Delta Power Solutions (India) Pvt. Ltd. to market fuel cells in the India telecommunications sector. Under the agreement, Dantherm and Delta will jointly work to deploy product field trials comprised of Dantherm's direct hydrogen 2-kW DBX2000 fuel cell system as well as its 5-kW DBX5000 fuel cell system, which will be integrated by Delta, along with its Site Management & Control System (SMCS), and deployed at telecom customer sites in India.

<http://www.ballard.com/about-ballard/newsroom/news-releases/news07271101.aspx>

Multiquip Fuel Cell Light Tower Lights Up Shuttle Launch.

Multiquip's EarthSmart™ H2LT hydrogen fuel cell powered light tower (H2LT) was used on the grounds of the Kennedy Space Center for the Space Shuttle Atlantis' 135th and final mission for the NASA Space Shuttle Program. The unit was used to provide lighting in the international press area, and its auxiliary power was used to recharge the camera battery packs for a number of photographers at the event.

http://www.multiquip.com/multiquip/mq-news_6502_ENU_HTML.htm

MICRO FUEL CELLS

myFC Raises \$6.7 Million for Product Launch.

myFC AB raised US\$6.7 million to commercialize and launch the company's first consumer product PowerTrekk, a fuel cell charger for mobile phones. The product will be shipped in Q4 2011 in Europe and Q1 2012 in USA. Among the investors in this round are KTH Chalmers Capital and the Sixth Swedish National Pension Fund.

<http://www.myfuelcell.se/press-release-myfc-raises-usd-6-7-million-in-funding/>

MILITARY APPLICATIONS

Eighteen Fuel Cells to be Installed at Eight Military Bases in U.S.

The U.S. Department of Energy (DOE) and the U.S. Department of Defense (DOD) will be installing 18 fuel cell backup power systems at eight military installations across the U.S. to provide emergency backup power. The fuel cells will be installed at: Fort Bragg, North Carolina; Fort Hood, Texas; The U.S. Military Academy at West Point, New York; Aberdeen Proving Ground, Maryland; Picatinny Arsenal, New Jersey; Cheyenne Mountain Air Force Base, Colorado; U.S. Marine Corps Air Ground Combat Center 29 Palms, California; and The Ohio National Guard, Columbus, Ohio.

<http://www.energy.gov/news/10434.htm>

Ultra Electronics Ships 15 SOFCs to Army.

Ultra Electronics, Adaptive Materials (AMI) recently shipped 15 of its 300-watt solid oxide fuel cells (SOFC) to the U.S. Army for field testing. The fuel cell's development and delivery are part of a contract AMI has with the Communications-Electronics Research, Development and Engineering Center (CERDEC) valued at \$4.68 million. Several of the fuel cells in this delivery are ultimately headed to Afghanistan for use by soldiers in the field.

<http://www.ultra-ami.com/ultra-electronics-adaptive-materials-ships-300-watt-fuel-cells-to-army-for-field-testing>

InnovaTek Awarded Funding for Butanol Processor.

InnovaTek was selected to receive \$750,000 for the second phase of research and development of its miniature fuel processor that produces clean hydrogen from butanol for a fuel cell. The award will be made through the DOD Small Business Technology Transfer (STTR) Program. Innovatek will partner with Indiana University who will help develop the catalyst for the process.

<http://www.innovatek.com/army-funds-innovatek-portable-power-technology>

FUELS/REFORMERS/STORAGE

BMW Launching Methane-to-Hydrogen Project.

BMW Manufacturing Co. will launch a \$1 million multi-phase project aimed at converting some of the methane it collects from Waste Management's Palmetto Landfill in Wellford, South Carolina, into hydrogen. Through the program, the company collects methane gas from the nearby Palmetto Landfill and transports it via a 9.5-mile pipeline to the plant's energy center, where it is burned to provide about 50 percent of the 4 million-square-foot plant's energy needs. The hydrogen program will be funded by the South Carolina Research Authority. BMW will work in collaboration with Advanced Technology International, the Gas Technology Institute, Ameresco Inc. and the S.C. Hydrogen Fuel Cell Alliance.

<http://www.goupstate.com/article/20110725/ARTICLES/107261006/1051/sitemaps>

UK's First Commercial Hydrogen Fueling Station to Open in Swindon.

The Swindon Borough Council awarded a £250,000 (US\$400,000) grant from the South West England Regional Development Agency to build the UK's first commercial hydrogen fueling station. The station will be located at Honda's South Marston plant, and it is scheduled to open in September of 2011. BOC, the UK's largest supplier of industrial gases, will play a major role in the station's development, as it will install, operate, and provide private sector funding to the facility. This station is the first step in the UK's Hydrogen Highway initiative.

<http://www.bbc.co.uk/news/uk-england-wiltshire-14044316>

Hydrogenics Supplying Electrolyzer for German Station.

Hydrogenics Corporation will supply a HySTAT™-60 electrolyzer for a hydrogen fueling station to be opened in southern Germany. The electrolyzer is capable of producing up to 130 kilograms per day of green hydrogen fuel from wind power.

http://www.hydrogenics.com/invest/news_Details.asp?RELEASEID=588768

Carillion Purchases Week of HOST.

Carillion plc has entered into a one week paid-for Hydrogen On Site Trials (HOST) of ITM Power's transportable high pressure refueling unit (HFuel).

<http://www.itm-power.com/news/72/Carillion+Purchases+HOST+.html>

G-TEC Receives NYSERDA Funding.

G-TEC Natural Gas Systems has received an award from the New York State Energy Research and Development Authority (NYSERDA) Clean Energy Business Growth and Development Program to promote its line of Natural Gas Pressure Booster systems for fuel cell research and development.

<http://www.gas-tec.com/fuelcell.html>

MATERIALS/COMPONENTS/TESTING

REPORTS/MARKET STUDIES

2011 Patent Review.

Fuel Cell Today has published its 2011 Patent Review, the first in a new series of annual reports on fuel cell patent activity. It analyzes both granted patents and patent applications published in 2010, by comparison with publications in 2000 and 2005.

<http://www.fuelcelltoday.com/media/pdf/surveys/2011-Fuel-Cell-Patent-Review.pdf>

Direct Methanol Fuel Cells (DMFC) Technical Insights & Market Opportunities.

The report "Direct Methanol Fuel Cells (DMFC) Technical Insights & Market Opportunities" from MarketsandMarkets predicts growth from 14,200 DMFC shipments in 2011 to 92,000 shipments by 2016. DMFC revenue is expected to reach \$109 million by the year 2016 from \$17.5 million in the year 2010.

http://www.asdreports.com/shopexd.asp?ID=18453&utm_source=GEW&utm_medium=email&utm_campaign=GEW-R18453

Hydrogen Infrastructure.

Pike Research has published a new report, *Hydrogen Infrastructure*, which analyzes the dynamics of global demand for hydrogen fuel and the infrastructure investments that will support fueling stations for fuel cell light duty vehicles, buses, forklifts, scooters, and stationary power applications.

<http://www.pikeresearch.com/research/hydrogen-infrastructure>

State of the States: Fuel Cells in America 2011.

Fuel Cells 2000 has released "State of the States: Fuel Cells in America 2011," a new report that provides comprehensive state by state coverage of policies, deployments, installations and funding occurring in the past year. The report also features a foreword by Connecticut Governor Dannel P. Malloy, an introduction with summaries and information, and charts and fuel cell resources in the Appendices. Download the report for free at: <http://www.fuelcells.org/statereport.html>.

REQUESTS FOR PROPOSALS

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

\$1.4M Available in Clean-tech Grants for San Joaquin Valley, CA Projects.

The San Joaquin Valley Air Pollution Control District (District) is currently seeking clean-tech proposals under the Technology Advancement Program (TAP). Funding is for projects that demonstrate new and innovative emission reduction technologies that have the potential for broad applicability in the San Joaquin Valley and that will assist the District in meeting its air quality goals. A total of \$1,400,000 is available for this solicitation.

http://www.valleyair.org/Grant_Programs/TAP/tap_idx.htm

National University Clean Energy Business Challenge.

The National University Clean Energy Business Challenge is a nationwide initiative to create a network of regional student-focused clean energy business creation competitions. Regional winners will compete for a National Grand Prize in early summer 2012. The \$2 million in funding will support up to six regional competitions that will inspire, mentor, and train students from across the country to develop successful business plans to create a new generation of American clean energy companies. This national initiative will enable student participants to gain the skills required to build new businesses and transform promising innovative energy technologies from U.S. universities and national laboratories into innovative new energy products that will solve our nation's energy challenges, spur business creation, create American jobs, and boost American competitiveness.

<http://www.energy.gov/news/10436.htm>

<https://www.fedconnect.net/FedConnect/?doc=DE-FOA-0000570&agency=DOE>

LAUNCH: Energy Challenge.

NASA, USAID, The Department of State, and NIKE have joined together to launch the LAUNCH: Energy Challenge - Innovative Energy Technologies and Deployment Models for Sustainable Development, in an effort to identify, showcase and support innovative approaches to global sustainability challenges. The goal of the LAUNCH: Energy Challenge is to identify 10 "game changing" innovations that have the potential to transform current energy systems, and help support a more sustainable future. LAUNCH invites proposals for innovative energy technologies, as well as energy-focused education, business, and financial strategies that have the potential to provide energy at a household, community, commercial, or industrial level.

<http://launch.org/challenge/energy>

MISCELLANEOUS

Topsoe Expanding Fuel Cell Stack Production.

Topsoe Fuel Cell is expanding its SOFC stack production facilities, taking over an existing building near its current plant in Ravnholm, Denmark. Inauguration is planned for December 2012.

http://www.topsoefuelcell.com/sitecore/content/Topsoe_fuel_cell/news_and_info/press_releases/140711.aspx

LOGANEnergy to Launch LOGANEnergy Carolina.

LOGANEnergy will be opening a new business unit at Midlands Technical College's (MTC) Enterprise Campus in Columbia, South Carolina. This new venture, LOGANEnergy Carolina, will be housed in MTC's business accelerator bay providing the company with new facilities to assemble its power systems and stage its expansion of fuel cell services targeting Southeast and Mid-Atlantic markets with small scale fuel cell solutions.

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

CONFERENCES

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

Free Webinar.

A free webinar entitled, "Go Local: Maximizing Your Local Renewable Resources With Fuel Cells" will be held Tuesday, August 16, 2011, from noon - 1 pm EST. Speakers include Lewis Nelson - Director of Public Works, City of Tulare, Chris Peebles - Director, AC Transit, and Amy Christopherson Bolten - Public Information Officer, Sonoma County Water Agency. To register, please go to

<http://tcorp.com/webinars.asp>.

Fuel Cell Workshop.

A 1-Day Workshop, "Energy Efficiency: When Fuel Cells are Best in Class" will be held Wednesday, September 21, 2011, in Brussels, Belgium. To find out more, please go to

http://fuelcelleurope.eurokeys.eu/index.php?option=com_wrapper&view=wrapper&Itemid=53.

f-cell 2011.

The f-cell 2011 conference and trade fair will take place September 26-27, 2011, in Stuttgart, Germany. The conference focus is “Mobile applications – fuel cells and batteries moving the future.” For conference details, please go to <http://www.f-cell.de/englisch/Home/>.

Fuel Cell Seminar & Exposition 2011.

The Fuel Cell Seminar & Exposition 2011 will be held October 31 - November 3, 2011, at the Walt Disney World Swan and Dolphin Resort in Orlando, Florida. For information on exhibiting or registration, please go to <http://www.fuelcellseminar.com/>.

GOVgreen.

The Center for Environmental Innovation and Leadership’s GOVgreen conference will be held November 30 – December 1, 2011, at the Walter E. Washington Convention Center in Washington, DC. For information, please go to <http://www.govgreen.org/>.

Innovative Energy Solutions for Military Applications Conference.

The Innovative Energy Solutions for Military Applications Conference and Exhibition will take place at Hall 5 of the Lithuanian Exhibition and Congress Centre LITEXPO, in Vilnius, Lithuania on November 10, 2011. For more information, please visit <http://www.litexpo.lt/lt>.

Piero Lunghi Conference and Exhibition.

The 4th Edition of the European Fuel Cell Technology & Applications Piero Lunghi Conference and Exhibition 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.