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1. Welcome New Members; Join Us May 16

CHBC extends a warm welcome to Southern California Gas Co., our newest Silver member. We also invite you to our May 16 General Meeting at CalEPA in Sacramento. Details will be announced soon.

[SoCalGas](http://www.socalgas.com/): <http://www.socalgas.com/>

2. DOE Issues RFP for H2 Storage Engineering Center of Excellence

The U.S. Dept. of Energy (DOE) requests proposals for a Hydrogen Storage Engineering Center of Excellence. Through this initiative, DOE seeks to form a team to research and develop onboard vehicular hydrogen storage systems and components that will allow for a driving range of greater than 300 miles while meeting vehicular packaging, safety, cost and performance requirements. \$40 million is expected to be available, up to 16 awards anticipated. Responses are due 6/3/08. For more info, contact Genevieve Wozniak at EngineeringCoE@go.doe.gov or go to: <https://ecenter.doe.gov/iips/faopor.nsf/UNID/AAEB2AA3C24EB96C852573FC0064020F?OpenDocument>. Refer to Sol# DE-PS36-08GO98006.

[RFP](https://ecenter.doe.gov/iips/faopor.nsf/UNID/AAEB2AA3C24EB96C852573FC0064020F?OpenDocument): [https://e-](https://ecenter.doe.gov/iips/faopor.nsf/UNID/AAEB2AA3C24EB96C852573FC0064020F?OpenDocument)

[center.doe.gov/iips/faopor.nsf/UNID/AAEB2AA3C24EB96C852573FC0064020F?OpenDocument](https://ecenter.doe.gov/iips/faopor.nsf/UNID/AAEB2AA3C24EB96C852573FC0064020F?OpenDocument)

3. DOE EERE Seeks Fuel Cell Team Leader

The U.S. Dept. of Energy (DOE) Office of Energy Efficiency and Renewable Energy seeks a dynamic, motivated and highly qualified chemical engineer, chemist or materials scientist to serve as the Fuel Cell Team Leader within the Hydrogen, Fuel Cells and Infrastructure Technologies Program. This full-time, permanent position is located at DOE Headquarters in Washington, DC. U.S. citizenship is required. Applications must be received via <http://jobsearch.usajobs.opm.gov/> between March 17, 2008 and April 25, 2008. See Posting number 08HQ-PN-GO-EE8-0002. Interdisciplinary- Lead Chemical Engineer/Chemist/Physical Scientist, GS-15; Salary Range: \$115,317 - \$149,000. DOE is an Equal Opportunity Employer.

[Job Posting:](#)

<http://jobsearch.usajobs.gov/getjob.asp?JobID=69759450&AVSDM=2008%2D03%2D17+00%3A03%3A00&Logo=0&q=fuel+cell+team+leader&lid=316&FedEmp=N&sort=rv&vw=d&brd=3876&ss=0&FedPub=Y&SUBMIT1.x=0&SUBMIT1.y=0>

4. Toyota Head Reaffirms Commitment to FCVs

Work is moving ahead to build a next-generation eco-friendly car running on fuel cells, the head of auto giant Toyota said recently. "When we first started the research and development of fuel-cell cars, some people predicted that they may be commercialized by around 2010. But that's difficult," Toyota Motor Corp. President Katsuaki Watanabe said. "The technological advances are significant. The only problem is the cost." Toyota last year reported success in a test of a fuel-cell car. The FCHV vehicle was driven about 560 kilometres (350 miles) on a single filling and finished with 30 percent of the hydrogen still in the tank. Watanabe noted, "It will probably be a way ahead until we can start mass production, but we will definitely commercialize it as I believe it is a promising power source," he said.

[Toyota:](#)

http://news.yahoo.com/s/afp/20080313/sc_afp/japanautocompanyenvironmenttoyota

5. Mercedes B-Class Fuel Cell Drive Passes Winter Testing

The Mercedes Benz B-Class with fuel cell technology has passed a series of winter tests in Sweden. Daimler Research subjected the fuel cell powered car to a number of comprehensive tests at sub-zero temperatures to scrutinize its cold start behavior and engine mechanics under severe conditions. "The results proved we are on the right track and have taken another important step to reaching production standard," said Dr. Thomas Weber, Daimler AG board member. Mercedes plans to launch its first commercial fuel cell vehicle in 2010. Earlier this month, company chairman Dr. Dieter Zetsche said the Mercedes was "very, very serious" about fuel cell vehicles and predicted that the number of zero-emission cars in production would increase to 100,000 annually by 2015.

[Mercedes:](#) <http://www.fuelcelltoday.com/online/news/articles/2008-03/B-Class-fuel-cell-drive-passes-w>

6. Hyundai Kia Group to Make FC Cars in 2012

The Hyundai Kia Automotive Group aims to commercialize its first hybrid car next year. During President Lee Myung-bak's recent visit to Kia's assembly lines in Gwangju, Hyundai Kia Automotive Group Chairman Chung Mong-koo reportedly told him that the automaker will advance the scheduled mass production of hybrid cars to next year. The world's sixth-largest automotive group has made small hybrid vehicles on a trial basis first for government use. The carmaker will also start selling fuel cell vehicles in 2012 and increase their number in the test stage to 500. The lineup of such cars will also expand to include SUVs. Hyundai developed in 2000 a fuel cell model of its Sportage SUV, the first of its kind in Korea. In 2004, it introduced second-generation fuel cell cars by using its 80-kilowatt fuel

cell for the SUVs Tucson and Sportage.

[Kia](http://english.donga.com/srv/service.php3?bicode=020000&biid=2008032460978): <http://english.donga.com/srv/service.php3?bicode=020000&biid=2008032460978>

7. Virgin Atlantic to Offer GM H2 FC Limos to Upper Class Passengers

Virgin Atlantic and General Motors recently announced that the airline will offer passengers a zero-emissions Chevrolet Equinox hydrogen fuel cell car as part of its Upper Class limo service. Initially passengers in Los Angeles will take part in the trial which will enable them to experience the next generation of cars and reduce their carbon footprint. Sir Richard Branson, president of Virgin Atlantic, commented, "We are calling on governments worldwide to assist businesses by building hydrogen filling stations in key cities. As a first step, existing filling stations could add renewable energy pumps alongside other fuel pumps. This new technology will only become commonplace if businesses and drivers are incentivized to adopt it quickly, and that's where governments need to play a major role."

[Virgin](http://biz.yahoo.com/prnews/080303/nym049.html?.v=101): <http://biz.yahoo.com/prnews/080303/nym049.html?.v=101>

8. Morgan Builds Hydrogen Sports Car

Classic car company Morgan used the Geneva Motor Show to showcase its LifeCar, which uses a hydrogen fuel cell to go from 0-60 mph in seven seconds up to a top speed of 90 mph. Its estimated range is 200 miles. The car is very light at only 700 kg and uses four electric motors to drive wheels that are 10 kg lighter and much more efficient than anything else on the market, the firm claims. The engines recoup 50 per cent of their power used while braking, a huge improvement on the more usual 10 per cent. The lightness of the car and efficiency of the engines makes it possible to install a much smaller fuel cell, although a finished car would probably need more range. The project is a collaboration between Morgan, Cranfield University, QinetiQ and Oxford University

[Morgan](http://www.vnunet.com/vnunet/news/2211107/morgan-builds-hydrogen-sports): <http://www.vnunet.com/vnunet/news/2211107/morgan-builds-hydrogen-sports>

9. Eden Energy Advances Practicality of Hydrogen Cars

Eden Energy Ltd., through its wholly-owned U.S. subsidiary Hythane Co. LLC, announced it has received a U.S. patent for its cryogenic storage vessels for liquid hydrogen. The new technology will advance the practicality of hydrogen cars by optimizing energy storage, reducing or eliminating the need for lithium ion batteries. Whether used for traditional hybrids, electric cars, or hydrogen combustion engines, the technology, Super Magnetic Energy Storage (SMES), will capture and use energy from the vehicle braking system to reduce or eliminate the use of batteries. By combining fuel storage and the battery into a single unit, the range and efficiency of alternative fuel vehicles will be increased, and fuel can be stored in a much smaller space.

[Eden](http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20080318005854&newsLang=en):

http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20080318005854&newsLang=en

10. CTTRANSIT Operates New England's First Fuel Cell Hybrid Bus

The National Renewable Energy Laboratory (NREL) has recently published a fact sheet on Connecticut Transit's (CTTRANSIT) first fuel cell bus project. CTTRANSIT has been operating the hybrid fuel cell bus since April 2007. The Van Hool bus features an ISE-designed hybrid system, powered by a UTC Power fuel cell power system. The project is funded by several sources, including the Federal Transit Administration, Connecticut Dept. of Transportation, Greater Hartford Transit District, and CTTRANSIT. The U.S. Dept. of Energy has funded NREL to conduct an evaluation of the bus in comparison to conventional diesel buses as a baseline. The first evaluation results report should be available later this summer.

[Fact Sheet](http://www.nrel.gov/hydrogen/pdfs/42407.pdf): <http://www.nrel.gov/hydrogen/pdfs/42407.pdf>

11. Hydrogen Bus to Receive Longer-Lasting Fuel Cell

More than two years after its unveiling, SunLine's \$3.1 million prototype hydrogen-electric fuel cell bus continues to move people throughout California's Coachella Valley while furthering green technology. At the time of its unveiling in November of 2005, the bus was one of only four of its kind in the U.S. The bus design was the second by ISE Corp., now contracted to provide fuel cell buses for the Canadian winter Olympics. The standard-sized bus uses a hydrogen-fueled, hybrid electric drive with fuel cell power instead of a combustion engine. It produces no emissions, only clean water vapor out of its tailpipe. As technology advances, new fuel cells are warranted for five years instead of two. Ultimately the goal is to get a fuel cell to last 12 years and 500,000 miles, like SunLine buses running on compressed natural gas.

[SunLine:](#)

<http://www.mydesert.com/apps/pbcs.dll/article?AID=/20080225/NEWS01/802250318>

12. Ford Delivers Hydrogen Buses to Detroit Metropolitan Airport

Ford Motor Co., U.S. Congressman John Dingell, and the Wayne County Airport Authority announced the delivery of two hydrogen-fueled Ford E-450 shuttle buses to be used for transporting airline passengers between terminals at Detroit Metropolitan Airport (DTW). The delivery is the result of a partnership involving Ford, the Wayne County Airport Authority and the Southeast Michigan Council of Governments (SEMCOG). The project is being funded with a U.S. Dept. of Energy (DOE) grant. Power for the Ford E-450 shuttle buses is provided by a 6.8-liter V-10 internal combustion engine that has been supercharged and modified to run exclusively on hydrogen fuel. DTW's new buses will be fueled by a hydrogen station located in Taylor, MI., just east of the airport.

[Ford:](#) <http://www.ford.com/about-ford/news-announcements/press-releases/press-releases-detail/pr-ford-delivers-ultraclean-hydrogen-27904>

13. Linde to Speed up Hydrogen Refueling in North America

Filling vehicles with hydrogen is about to get faster and easier, thanks to technology Linde is bringing to North America. Linde is the first company to meet a new industry target designed to dramatically reduce the time it takes to fill hydrogen-powered vehicles. "Linde is leading the industry with our proprietary, 700-bar fast-fill technology, first developed for hydrogen refuelling stations in Europe. The technology enables us to completely fill cars in as little as three minutes," said Mike McGowan, head of hydrogen solutions for Linde North America. Industry experts see shortened refuelling time as an essential component to improve consumer acceptance and adoption of hydrogen-fueled vehicles.

[Linde:](#)

http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20080326005967&newsLang=en

14. Hydrogen Fuel Station Opens in White Plains, NY

With a history of using alternative-fuel vehicles, White Plains, NY now is the Northeast hub for a model program designed to put hydrogen-powered cars in consumers' hands. In partnership with General Motors (GM) and Shell Hydrogen, the city has opened on its property the only hydrogen refueling station in the metropolitan area equipped for public use, GM and city officials said. Two hydrogen-powered versions of the Chevrolet Equinox sport utility vehicle are now on Westchester roads as part of GM's Project Driveway, which aims to lend 100 fuel-cell vehicles free to consumers in New York, Washington and Los Angeles over the next three years, said Daniel O'Connell, GM's director of fuel-cell commercialization.

[NY Station:](#)

http://www.nytimes.com/2008/03/16/nyregion/nyregionspecial2/16hydrogenwe.html?_r=1

&ref=nyregionspecial2&oref=slogin

15. Air Products' Hydrogen Technology Fuels So Carolina Demo Project

Air Products' mobile hydrogen fueling technology has been placed into service for a hydrogen fuel demonstration project in Aiken County, SC. The fueler is providing hydrogen for a hydrogen-powered internal combustion engine pick-up truck which is being used as a development, demonstration and educational tool in coordination with a program involving the Aiken County Economic Development Partnership. The hydrogen internal combustion engine vehicle is the first hydrogen vehicle registered in South Carolina and appropriately carries the license plate SCH2 1.

[Air Products:](#)

<http://www.airproducts.com/PressRoom/CompanyNews/Archived/2008/24Mar2008b.htm>

16. Startech Environmental Announces Plans for Its Carbonless Power System

Startech Environmental Corp. recently announced plans to produce and market its Carbonless Power System for "Green Electricity" in stationary facilities. Startech Hydrogen, derived from processing waste in the Startech Plasma Converter(TM), will be used as a pristine fuel to power the hydrogen-engine-generators from the Hydrogen Engine Center, Inc. (HEC). The company is scheduled to receive its first hydrogen-engine-generator from HEC in May for demonstrations at its Bristol, CT Tech Center. HEC is Startech's new strategic alliance partner. Startech's Plasma Converter System (PCS)(TM), in processing most wastes, produces a synthesis gas that we named Plasma Converted Gas (PCG)(TM). With many wastes, the PCG rich in hydrogen can be separated as a pristine fuel within the Carbonless Power System.

[Startech:](#)

<http://www.xprn.com/xprn/storyCenter.do?method=loadStoryDetail&storyId=4028ee8c18c7222c0118e28b5573009f&langId=1>

17. Energy Quest Board Approves PyStR(TM) H2 Demonstration Unit

The board of directors of Energy Quest, Inc. has approved the construction of a 1 million SCF per day portable PyStR(TM) hydrogen unit for demonstration to the petroleum industry in Alberta, Canada. In 2005 Energy Quest obtained the exclusive rights to a new hydrogen generation technology referred to as the PyStR(TM) process. PyStR is an acronym derived from Pyrolytic Steam Reforming. This process can directly produce high purity hydrogen from biomass and other carbonaceous feed-stocks such as oil sands, coal and petroleum coke and has the potential to significantly reduce hydrogen costs to levels much lower than those of the present steam methane reforming methods.

[PyStR\(TM\):](#) <http://money.cnn.com/news/newsfeeds/articles/marketwire/0373266.htm>

18. QuantumSphere Announces Breakthrough in Clean Hydrogen Production

QuantumSphere, Inc. (QSI) has announced that it has achieved a breakthrough in clean hydrogen production through water electrolysis. Leveraging a proprietary advanced catalyst formulation, QSI-Nano NiFe(TM), QuantumSphere has effectively increased the surface area of commercial electrodes by approximately 1,000 times. This increase is due to unique physical characteristics of nanoparticles. For example, a gram of QSI-Nano(R) materials have the surface area of about the size of a soccer field. To date, the QSI-Nano NiFe(tm) coated electrodes have surpassed 1,000-hour durability testing under harsh conditions (33% KOH, 1 A/cm²). These nano-enabled electrodes demonstrate QuantumSphere's ability to produce larger amounts of clean hydrogen on demand at improved rates.

[QuantumSphere:](#) <http://www.primenewswire.com/newsroom/news.html?d=136962>

19. Ballard and IdaTech Sign Supply Agreement for Fuel Cell Backup Power Market

Ballard Power Systems has signed a three-year supply agreement under which Ballard will provide its Mark1020 ACS(TM) fuel cell product for integration into IdaTech's next generation 250 watt iGen(TM) power supply. Auxiliary and backup power solutions based on fuel cell technology deliver a number of significant advantages over conventional batteries and diesel generators, including higher reliability over a wide range of operating conditions; lower maintenance costs; longer operating life; reduced size, weight, installation footprint and environmental impact. The three-year supply agreement will generate approximately 100 fuel cell product unit shipments from Ballard to IdaTech in the first year, with the potential for more than 1,000 units over the full term of the agreement.

[Ballard](http://phx.corporate-ir.net/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1122609&highlight=): <http://phx.corporate-ir.net/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1122609&highlight=>

20. New Fuel Cell Joint Venture with Intelligent Energy

Scottish and Southern Energy plc (SSE) and Intelligent Energy recently announced the formation of a joint venture company which will develop clean and reliable, fuel cell based, combined heat and power systems for the light industrial, commercial and residential markets in the United Kingdom and Ireland. SSE will initially invest GBP1 million for a 50 per cent share in the new company, to be called IE CHP (UK & Eire) Ltd. Intelligent Energy and SSE will make phased investments to the business as it reaches a series of mutually agreed milestones. The joint venture will combine Intelligent Energy's leading fuel cell and hydrogen generation technologies with SSE's customer base and service operations, and confirms SSE's commitment to enhancing its portfolio of clean energy alternatives.

[IE](http://www.scottish-southern.co.uk/SSEInternet/index.aspx?id=12272&TierSlicer1_TSMMenuTargetID=1364&TierSlicer1_TSMMenuTargetType=1&TierSlicer1_TSMMenuID=6): http://www.scottish-southern.co.uk/SSEInternet/index.aspx?id=12272&TierSlicer1_TSMMenuTargetID=1364&TierSlicer1_TSMMenuTargetType=1&TierSlicer1_TSMMenuID=6

21. Hydrogenics Awarded Six Orders Valued at \$11.6 Million

Hydrogenics Corp. recently announced it has received orders from customers in China, Eastern Europe and the United Arab Emirates with an aggregate value of \$11.6 million. The HySTAT(TM) hydrogen generation systems will be used to deliver high purity hydrogen onsite for metallurgical processing, microelectronics manufacturing and preparation of nuclear fuel for shipment to power generation reactors throughout Europe. These orders are anticipated to be delivered within a 12-month period. "A significant factor in capturing these sales was the high quality and strong operating track record for our HySTAT hydrogen generation systems deployed throughout Eastern Europe," said Daryl Wilson, president and CEO of Hydrogenics Corp.

[Hydrogenics](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=297726): http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=297726

22. AeroVironment's Hybrid Fuel Cell UAV Sets Flight Record

AeroVironment (AV) has achieved a new long-duration flight record with its hand-launched Puma small unmanned air vehicle (SUAV). The fuel cell hybrid-powered Puma flew for over nine-hours, eclipsing the previous seven hour record set by the same craft in July 2007. The nine-hour milestone using the onboard fuel cell battery hybrid energy storage system is also more than triple what the Puma can achieve when running on battery power only. The Pulse's UAV(TM) fuel cell system from AV research partner Protonex Technology Corp. recharges the battery and delivers steady-state power for the plane and payload during cruise flight and a lithium ion battery to provide peak power during takeoff and dash maneuvers.

[UAV](http://www.gizmag.com/aerovironment-puma-hybrid-fuel-cell-uav-flight-record/8948/): <http://www.gizmag.com/aerovironment-puma-hybrid-fuel-cell-uav-flight-record/8948/>

23. Hydrogen Fuel is the Way Ahead, Says Prokhorov

Mikhail Prokhorov, Russia's sixth-richest tycoon, recently said the UK's commitment to a

nuclear energy program overlooks research that suggests hydrogen technology could be a more efficient option. "So often," he said, "alternative energy sources, such as solar and wind energy, have failed two fundamental tests: being able to both store the raw energy and handle peaks of consumption." Prokhorov's main investment vehicle is Onexim Group, a \$17bn private investment fund that he launched in May last year. "As well as investing in more traditional industries, it is our intention to invest billions in hydrogen technology. A compelling advantage of energy produced from hydrogen fuel cells, " he added, "is that it can, thanks to nanotechnology advances, be stored. It can therefore be produced to coincide with consumption peaks."

[Prokhorov](http://www.independent.co.uk/news/business/news/hydrogen-fuel-is-the-way-ahead-says-oligarch-799616.html): <http://www.independent.co.uk/news/business/news/hydrogen-fuel-is-the-way-ahead-says-oligarch-799616.html>

24. The Future is Green - Sept 14-16

California Hydrogen Business Council is a support sponsor of a conference and expo on new and emerging clean air technologies and innovations, to be held in Long Beach, CA on September 14-16, 2008. Presented by the California Air Pollution Control Officers Association, which represents 35 local air pollution control officers throughout California, conference topics will include clean fuel technologies, green fleet vehicles and equipment, green building design and energy efficiency, renewable power generation, green transportation systems technologies, green consumer products and behavior, and green agricultural equipment and operations. Early Bird registration is now available. For details, email info@capcoa.green.com or call (800) 993-0302.

[Register](http://www.capcoagreen.com): <http://www.capcoagreen.com>

25. Send Us Your News; Board of Directors

We welcome important news from our members for inclusion on our website and in next month's report. Thank you for helping build a great organization. Our board: President - Henry Wedaa; Vice President - Paul Scott, ScD; Secretary - Josh Mauzey; Treasurer - John Williams; Managing Director - Catherine Rips; Membership Chairman - Mark Abramowitz; Program Chairman - Henry Wedaa; Director at Large - Allan Bedwell; Director at Large - Fred Silver; Director at Large - Larry Watkins; Ex-officio Government Liaison - Analisa Bevan. To send news or contact the board, please email: info@californiahydrogen.org.

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Catherine Rips, Editor/Publisher

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