CHBC News: September 2009

1. Welcome New Members

We extend a warm welcome to our newest Silver member, National Renewable Energy Lab (NREL) and to our newest Individual member, Dan Oberle. And special thanks to Platinum member, South Coast Air Quality Management District, and Gold member, Bay Area Air Quality Management District, for your continued support. We appreciate it!
NREL: http://www.nrel.gov

2. Breakthrough Markets - CHBC Sept 17 General Meeting

One of the objections to sustained support for hydrogen is that marketable products are too far off. Presenters at our September 17 conference respectfully disagree! Our speakers will highlight breakthrough hydrogen markets for mobile and stationary applications including back-up power, UPS, materials handling, refinery operations, renewable energy storage and more. Register now to hear: Lisa Callaghan Jerram, Fuel Cell Today; Eric R. Freeman, P.E., Valero Energy Corp.; Todd E. Suckow, Hyundai-Kia America Technical Center, Inc.; Jeff Grant, Ballard Power Systems; Eric Simpkins, IdaTech; Steve Szymanski, Proton Energy Systems; Jack Oswald, SynGest, Inc.; Patrick Quarles, Asemblon, Inc.; Robert McGillivray,

Hydrogenics Corp.
Register Now: http://www.californiahydrogen.org/page.cfm?content=48

3. DOE Launches $1 Million H-Prize
As authorized in Section 654 of the Energy Independence and Security Act of 2007, DOE is announcing the Initial H-Prize Competition which will be a single award for $1 million in the subject area of advanced materials for hydrogen storage--a critical challenge to enable widespread commercialization of hydrogen and fuel cell technologies. Evaluation of entries will begin approximately 15 months after the date this announcement appears in the Federal Register (FR). A single prize of $1 million will be awarded, unless no entries are significant enough to merit an award. The essential elements of the H-Prize Competition are included in the links below.
Announcement: http://cryptome.org/0001/doe082609.htm
How to Compete: http://www.hydrogenprize.org/compete.asp

4. Toyota Advanced Fuel Cell Hybrid Vehicle Completes Government Field Evaluation
Toyota Motor Sales, U.S.A., Inc. (TMS) announced the results of a recent collaborative fuel cell hybrid vehicle range and fuel economy field evaluation. The Toyota Highlander Fuel Cell Hybrid Vehicle - Advanced (FCHV-adv) achieved an estimated range of 431 miles on a single full tank of compressed hydrogen gas, and an average fuel economy of 68.3 miles/kg (approximate mpg equivalent) during a day-long trip down the southern California coast. "This evaluation of the FCHV-adv demonstrates not only the rapid advances in fuel cell technology, but also the viability of this technology for the future," said Jared Farnsworth, Toyota Technical Center advanced powertrain engineer.
Toyota:
http://news.prnewswire.com/DisplayReleaseContent.aspx?ACCT=104&STORY=/www/story/08-06-2009/0005073284&EDATE=

5. New Army Lab Will Support Next Generation Ground Vehicles
The U.S. Army Tank Automotive Research Development and Engineering Center broke ground in August on a new 30,000 square foot facility for testing military ground vehicles. Called the Ground Systems Power and Energy Lab (GSPEL), the facility will evaluate an array of military vehicles, from light transports to heavy combat vehicles with hybrid-electric and fuel-cell configurations. "GSPEL's mission is to reduce the development time while improving reliability associated with advanced technologies so they can be used with high confidence in demanding Army conditions. GSPEL will help expedite the integration of hybrid-electric and fuel-cell technologies into advanced military vehicles," says Mike Kluger, a senior program manager in the Southwest Research Institute Fuels and Lubricants Research Division.
Army: http://www.swri.org/9what/releases/2009/ArmLab.htm

6. GM Plans Production for Hydrogen FCVs in 2012
In spite of the retirement of Larry Burns, GM's VP of research and development, his replacement, Alan Taub, remains committed to bringing fuel cells to production. GM's fifth generation fuel cell stack is comparable in size to a 2.4-liter EcoTec four cylinder and far less expensive to manufacture than past iterations of the fuel cell stack. Taub said GM still hopes to start series production of fuel cells by about 2012. GM is by no means alone in these efforts as Daimler, Toyota, Honda, and Hyundai have all remained publicly committed to fuel cells. The big problem still remains hydrogen distribution.
GM: http://green.autoblog.com/2009/08/11/gm-not-giving-up-on-hydrogen-fuel-cells-yet-production-planned/

7. M&M Showcases Hydrogen-Powered Hy-Alfa Three-Wheeler
Mahindra & Mahindra Ltd (M&M), showcased its hydrogen-powered Alfa 3-wheeler vehicle, the Hy-Alfa, at the World Hydrogen Technologies Convention 2009 recently held in New Delhi. M&M says this is the frst vehicle of its kind in the world to run on compressed hydrogen gas with zero emissions. "Hydrogen is the technology and fuel of tomorrow and is the long term solution to pollution, energy security and CO2 emission related concerns," said Dr. Mathew Abraham, M&M R&D Centre. This HICE vehicle is available in 3-seater passenger and cargo versions. Recently, M&M and other partners has signed an MoU with the United Nations Industrial Development Organization (UNIDO) India and International Centre for Hydrogen Energy and Technology (ICHET) Turkey to carry out a 15 Hy-Alfa Demo project next year at Pragati Maidan in New Delhi.
3-Wheeler: http://www.domain-b.com/companies/companies_m/Mahindra/20090826_hy-alfa.html

8. Hydrogen Refueling Station Okayed for Torrance
Torrance will become home to one of Southern California's first hydrogen refueling stations open to the public. The small facility at West 190th St. and Gramercy Place in North Torrance is a pilot project for the still emerging technology. Vehicles with hydrogen fuel cells create virtually no pollution and are at least twice as efficient as gasoline-powered cars. "I'm pleased we're moving forward with our first hydrogen station in Torrance, as it will be part of the cluster of sites Shell Hydrogen is developing in the L.A. area," said James Volk, business development manager for Houston-based Shell Hydrogen. The cutting edge facility will also include a small learning center for schoolchildren. The Torrance Planning Commission approved the facility at a recent meeting.
Torrance Station: http://www.dailybreeze.com/news/ci_13184851

9. Charleston Gets First Hydrogen Fueling Station
The hydrogen fuel production and dispensing station that opened recently at Yeager Airport will be the first of three such facilities to be built between Charleston and Pittsburgh within the next few years, officials say. Charleston's new hydrogen station, near the Federal Aviation Administration building on Eagle Mountain Rd., will serve as the model for a similar facility to be built with West Virginia University in Morgantown. "Having these stations in Charleston and Morgantown creates a corridor allowing hydrogen-powered vehicles to travel between the two cities," said David Haberman, president of the Mountain States Hydrogen Business Council. The Charleston fueling station is a cooperative effort between the U.S. Dept. of Energy's National Energy Technology Laboratory and Yeager Airport.
Charleston Station: http://sundaygazettemail.com/News/200908170902

10. Intelligent Energy Targets Bike Fleets in Fuel Cell Drive
Intelligent Energy chief executive Henri Winand said in a recent interview with BusinessGreen.com, "We have largely completed the R&D phase. Our focus now is to build our model of working behind the factory gates for OEM partners such as Suzuki, Scottish and Southern Energy (SSE) and Boeing." The company currently operates a partnership model where it licenses its fuel cell design to be used in a range of different applications and then works with manufacturers to install the system in their end products. The company is working with Suzuki on developing fuel-cell powered bikes, recently trialed a fuel cell as a source of auxiliary power for one of Boeing's aircraft, and is working on a project to deliver a number of fuel-cell powered black cabs in London, in time for the 2012 Olympics.
Intelligent Energy: http://www.businessgreen.com/business-green/news/2247124/intelligent-targets-bike-fleets

11. DOE and DOD Celebrate 7000+ Fuel Cell Forklift Fuelings
The U.S. Dept. of Energy (DOE) and the Defense Logistics Agency (DLA) recently celebrated over 7,000 fuel cell forklift fuelings at the Dept. of Defense (DOD) Defense Distribution Depot (DDSP) in Susquehanna, PA. The 40 fuel cell forklifts at DDSP are the first installment of a total of 100 forklifts that DLA will deploy in four of its high-volume distribution centers across the country. DDSP is the largest and most active DOD depot in the United States, providing round the clock service to the armed forces including direct support to our troops in Iraq and Afghanistan. These fuel cell deployments are part of DOE's efforts to support the early market adoption of clean, efficient, reliable fuel cell technology in the federal government. Successful demonstration of fuel cell technology at DDSP serves as a model of early adoption showcasing energy and cost savings.
Forklift Fuelings: http://apps1.eere.energy.gov/news/progress_alerts.cfm/pa_id=228

12. Enel Announces First Hydrogen-Fueled Power on Line in Venice
Two landmark events have been achieved at Enel's hydrogen-fueled power plant at Fusina near Venice. Just a few days after the new hydrogen pipeline supplied by Polimeri Europa (ENI) went into service, the power plant has successfully begun generating power fuelled 100% by hydrogen. The people of Venice are the first in the world to benefit from power generated by the world's largest industrial-sized zero emissions power plant. The Fusina hydrogen plant has a capacity of 12 MW, as well as an additional 4 MW generated through re-use of heated gas produced by the hydrogen-fueled turbine in the existing coal-fired plant. The electricity generated, about 60 million kWh a year, will be sufficient to meet the needs of 20,000 households, and avoid more than 17,000 metric tons of CO2 emissions a year.
Fusina Plant: http://www.yourrenewablenews.com/enel+announces+first+hydrogen-fuelled+power+on+line+in+venice_37922.html

13. Korean Government to Help Install Hydrogen Fuel Cells
In an effort to expand the supply of renewable energy to Korean households and support its producers, the government laid out an action plan that includes the construction of a wind-generated power complex and subsidies for the purchase and use of hydrogen fuel cells. The plan, announced by the Presidential Committee on Green Growth, hopes to raise the competitiveness of the renewable energy industry by helping it commercialize new technologies. Starting next year through 2020, the government also plans to cover 30 to 80 percent of the cost of buying and installing hydrogen fuel cells to power and heat homes. The government will pay 80 percent of the cost of purchasing and installing a fuel cell in a home until 2012. The subsidized percentage will drop to 50 percent from 2013 to 2016, and to 30 percent in the last three years leading up to 2020.
Korea: http://joongangdaily.joins.com/article/view.asp?aid=2909200

14. Wegmans Receives $1M Grant for Fuel Cell-Powered Equipment
Wegmans Food Markets, Inc. expects to save money and cut carbon emissions after improvements to equipment at its distribution center. The food retailer has received a $1 million grant from the Pennsylvania Energy Development Authority to help offset the cost of implementing hydrogen fuel cell-powered material handling equipment at its Retail Service Center in Pottsville, PA. During the three-phase project, the company plans to convert its entire lift truck fleet at the Pottsville facility to hydrogen fuel cells. The first phase will include the installation of an on-site hydrogen infrastructure (outdoor hydrogen storage tank and indoor fueling dispensers), as well as the equipment conversion in the produce facility. This phase is expected to be operational in November 2009.
Wegmans: http://www.environmentalleader.com/2009/08/18/wegmans-receives-1m-grant-for-fuel-cell-powered-equipment/

15. Scandinavian Hydrogen FC Set to Slash Emissions from Heavy Goods Vehicles
Volvo Technology AB, StatoilHydro ASA, the Danish company H2 Logic AS, Powercell Sweden AB and SINTEF have joined forces to develop a new hydrogen-driven fuel-cell system that will be an important aspect of efforts to greatly reduce CO2 emissions from trailers and forklifts. The new Scandinavian system has been specially developed for operation at sub-zero temperatures. Fork-lift trucks using the new system can therefore be operated outdoors on cold winter days, and in cold-stores. The fuels cell being developed could also supply power to trailers. The electricity generated could be capable of stopping heavy goods vehicle engines from having to run in neutral when their drivers are resting, and replace the use of diesel fuel in fork-lift trucks.
Volvo: http://www.azom.com/news.asp?newsID=18461

16. U.S. Navy's Fuel Cell Drone Takes to the Air
The U.S. Navy's Naval Research Lab has completed a successful flight test of a fuel cell-powered drone.The XFC (eXperimental Fuel Cell) unmanned aerial system was airborne for more than six hours. The flying robot is the first long endurance fuel cell-powered drone in the Navy's arsenal. Compared to internal-combustion powered vehicles, battery-powered drones are stealthy because they're relatively free of noise and lack a strong thermal signature. They're also easy to start, operate and maintain. However, they have poor payload capacity and endurance. The hydrogen fuel cell greatly extends endurance and allows the drone to carry a heavier payload. The non-hybridised power plant allows the drone to stay aloft for seven hours, travelling at up to 60mph while carrying surveillance equipment or laser-guided bombs.
Navy: http://www.techradar.com/news/world-of-tech/future-tech/us-navy-s-fuel-cell-drone-takes-to-the-air-623719

17. BlueBird Aero Systems, Horizon Unveil First Commercial FC UAS
Developed by BlueBird Aero Systems and powered by Horizon Fuel Cell Technologies, the world's first long endurance, commercial hydrogen fuel cell powered Unmanned Aerial System (UAS) was showcased as one of the top innovations at this year's Association for Unmanned Vehicle Systems International conference in Washington, D.C. Horizon also displayed its brand new AEROPAK, a new self-contained 2kg fuel cell power system able to deliver 900Wh, which can increase the flight endurance by as much as 300 percent. "Boomerang" is a field-operational 9kg electric powered UAS able to fly for over nine hours using Horizon's high performance hydrogen-electric power system. The fuel cell-powered UAS is already licensed for flights in Israel and is graded as a matured system.
Boomerang: http://www.horizonfuelcell.com/files/BlueBirdHorizonAugust62009.pdf

18. Japanese Companies to Study Hydrogen Supply Routes for FC Cars
Nippon Oil Corp., Tokyo Gas Co. and 11 other companies said recently that they will conduct joint research with an aim to commercialize technologies for supplying hydrogen to fuel cell vehicles by fiscal 2015. Automakers are said to be considering joining the group. The research alliance will conduct field trials by setting up dozens of hydrogen stations across Japan. By using the oil companies' hydrogen production facilities and the pipelines of the gas companies, the group will research ways to transport the fuel to filling stations in a stable manner at low cost. Some of the stations are to be built in urban areas and on highways, such as at existing gasoline-pumping depots. The group hopes to eventually lower supply costs to levels comparable to gasoline.
Joint Research: http://www.tradingmarkets.com/.site/news/Stock%20News/2460743/

19. Hydrogen-Rich Material Promises Advances in Energy Transmission, Fuel Storage

Researchers at the Stanford Institute for Materials and Energy Science, a joint institute of the Stanford Linear Accelerator Center and Stanford University, have produced a hydrogen-rich alloy that could provide insight into the properties of metallic hydrogen, according to a study published in the August 17 issue of Proceedings of the National Academy of Sciences. The work is a step toward materials with revolutionary implications for energy science, enabling lossless power transmission, next-generation particle accelerators and even magnetic levitation. "People have already identified pure silane as a superconductor," said SIMES physicist Wendy Mao. "The next step is to determine what happens if you have something that is mostly hydrogen with a little bit of silane. Maybe you can get something closer to hydrogen."
Alloy: http://www.physorg.com/news170007996.html

20. Indian Reactor for Making Hydrogen Being Developed as Tech Demonstration
India has joined the league of countries like South Africa, China, U.S. and Germany which are trying to develop a high temperature reactor for generating hydrogen on a large scale. The technology demonstrator reactor would be ready by 2015 and work is currently in progress on the project said Anil Kakodkar, Atomic Energy Commission chairman. Srikumar Banerjee, director, Bhabha Atomic Research Centre (BARC), said the reactor would generate hydrogen by splitting water. The reactor's operational efficiency would be very much enhanced. Kakodkar said India would have sufficient uranium to meet the requirements of the already existing reactors and those in the process of being commissioned. India is looking at launching four 700 MWe units.
Reactor: http://timesofindia.indiatimes.com/NEWS/City/Chennai/Reactor-for-making-hydrogen-being-developed-as-tech-demonstrator-Kakodkar/articleshow/4849938.cms

21. Despite Cuts, Research Fueled by Hydrogen
The American Society of Mechanical Engineers awarded mechanical engineering and Center for Energy Research professor Yitung Chen, postdoctoral scholar Taide Tan and master's graduate Zhuoqi Chen a best paper award for their work in the field of renewable energy. The research, which was conducted as part of UNLV's larger Solar Hydrogen Generation Research project, was done to further the exploration of clean hydrogen production and the efficiency of a particle receiver. UNLV researchers worked in cooperation with Sandia National Laboratories in Arizona to create a scale model of the particle receiver for experimentation. Yitung Chen said the ultimate goal of this type of research is to create an instrument that would allow a less expensive, zero-pollution method of hydrogen production.
Best Paper: http://unlvrebelyell.com/2009/08/10/despite-cuts-research-fueled-by-hydrogen/

22. UW Students Win International Contest with Hydrogen-Powered Design
University of Waterloo students have won an international contest designing an environmentally friendly building for an American university. The team of chemical engineering and architecture students designed a hydrogen-powered student life building, which holds the cafeteria, bookstore and student government offices, for the State University of New York at Farmingdale, Long Island. The team of seven Waterloo students beat seven challengers, six from the U.S. and one from Turkey in the Hydrogen Student Design Contest. The challenge was to design a three-level, hydrogen-powered building of 76,000 square feet with a budget of $28 million. In the UW proposal, about 86 percent of the electrical power needs of the building is provided by renewable energy.
Contest: http://news.therecord.com/News/Local/article/579635

23. Call for Papers for NHA Hydrogen Conference & Expo
Abstracts are being accepted through October 19, 2009 for the 2010 NHA Hydrogen Conference and Expo, to be held May 3-6, 2010 in Long Beach. Abstracts should be no more than 500 words in length. Topics include Early Markets (portable and stationary applications, transportation, supporting infrastructure and production); Commercialization (manufacturing, filling gaps, funding and investment, commercialization of infrastructure, safety, codes and standards); Research and Development (on-board and portable storage, delivery, fuel cells, analysis, production); and Communication and education (work force development, education and outreach, policy). For more information, contact Brian Schorr at schorrB@hydrogenassociation.org or call (202) 223-5547, x 309.
Call for Papers: http://www.hydrogenconference.org/papers.asp

24. Fuel Cells and Hydrogen Meeting Belgium October 26-27
The Fuel Cells and Hydrogen Joint Undertaking (FCH JU), established in 2008 as a public-proviate partnership between the European Commission, European industry and research communities to commercialize fuel cell and hydrogen technologies, is holding its 2009 Stakeholders General Assembly in Brussels, Belgium October 26-27. The first day's agenda will focus on the progress of the FCH JU after its first year of operation; day two will examine the broader perspectives. Contributors will analyze the market as well as the political developments affecting the commercialization of fuel cells and hydrogen technologies. The FCH JU is funded by approximately 1 billion Euros over six years.
Belgium: http://ec.europa.eu/research/fch/index_en.cfm?pg=sga2009

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. The board of directors of the California Hydrogen Business Council is as follows: President, Paul B. Scott, ScD; Vice President, Mark Abramowitz; Treasurer, Josh Mauzey; Secretary, JJ Weston; President Emeritus, Hank Wedaa; Managing Director, Catherine Rips; Membership Chair, Richard Cromwell III; Program Chair, Fred Silver; Directors at Large, Terry Tamminen, Debbi Smith and Larry Watkins. Ex-officio Government Liaisions - Analisa Bevan and Gerhard Atchelik. To send news or contact the board, please email: info@californiahydrogen.org.

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