

# California Hydrogen Business Council September 2006 Report

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## **1. Pre-Reg Pricing in Effect till Sept 5 for CHBC's Sept 15 Meeting**

The National Fuel Cell Research Center (NFCRC) at UC-Irvine will host California Hydrogen Business Council's September 15 General Meeting. Award-winning investigative author Edwin Black is the keynote speaker. Highlights of the day-long conference include presentations by S. David Freeman, president, Los Angeles Harbor Commission; Mickey Oros, vice-president, Alteryg Systems; Tiffany Rau, manager, Policy and Communications, BP; and real world drivers of Honda and Toyota fuel cell vehicles. Plus lots more on the agenda, including a tour of NFCRC. Register before September 5 and receive pre-registration pricing.

Agenda/Register:

[http://www.californiahydrogen.org/page.cfm?content=17&event\\_ID=44](http://www.californiahydrogen.org/page.cfm?content=17&event_ID=44)

Edwin Black: <http://www.edwinblack.com>

## **2. HCNG Stakeholder Meeting Precedes Sept 15 Meeting**

Argonne National Lab was commissioned by the US Department of Energy (DOE) to address Section 1823 of the 2005 Energy Policy Act, which calls on DOE to provide a detailed assessment of potential markets for H/CNG and the R&D activities necessary to facilitate its commercialization. A stakeholders meeting will be held at UC Irvine on

Thursday, September 14 from 2 - 5 p.m. Space is limited. If you're interested in attending, contact Marianne Mintz, 630-252-5627, mmintz@anl.gov.

### **3. Terry Tamminen, Governor's Environmental Advisor, Steps Down**

Terry Tamminen, one of California Gov. Arnold Schwarzenegger's closest advisors and strongest voices for cleaner energy, has left the administration, a departure environmental activists describe as a worrisome loss. He is now working as a volunteer for Schwarzenegger's campaign and is not planning to return after the election. In an interview, Tamminen, 54, said a major reason for leaving was to help the Schwarzenegger campaign make the case that the governor's environmental record is a strong one. Confirmation of his departure came on the same day that Gov. Schwarzenegger signed a bill expanding a program to install 1 million solar roofs in California by 2018. Tamminen has a book coming out later this year, "Lives Per Gallon: The True Cost of Our Oil Addiction." (Editor's Note: CHBC wishes Mr. Tamminen success in his new endeavors and greatly appreciates his efforts on behalf of hydrogen and the environment.)

Tamminen: <http://www.latimes.com/news/local/la-me-terry22aug22,1,6712250.story>

### **4. Auto Alliance Behind New Hybrid System**

A research alliance consisting of General Motors Corp., BMW and DaimlerChrysler plans to invest more than \$1 billion in the development of a new hybrid system that backers say will leapfrog the market-leading technology now offered by Toyota Motor Corp. The three automakers have about 500 engineers working on the joint development of the next-generation hybrid engine technology, which combines a battery-powered electric motor with a conventional gasoline combustion engine. The so-called dual-mode hybrid technology that has been under development by the consortium includes an onboard fuel-optimization computer that determines when and at what speeds the two motors will be used for power and how the onboard battery will be recharged. The core of the design is a new transmission that is expected to cost the partners about \$300 million to develop, said Andreas Truckenbrodt, executive director of DaimlerChrysler's hybrid programs.

Alliance: <http://www.latimes.com/business/la-fi-hybrid12aug12,1,3274460.story>

### **5. Hydrogenics to Deliver Up to 500 Fuel Cell Power Modules to American Power Conversion**

Hydrogenics Corp. has entered into a manufacturing and supply agreement with American Power Conversion, a global provider of high availability systems for network-critical physical infrastructure (NCPI). Under the agreement, Hydrogenics will deliver up to 500 HyPM(R) XR 12 kW Fuel Cell Power Modules for integration into APC's NCPI solutions, specifically its InfraStruXure(R) architecture. "This is a tremendous opportunity for Hydrogenics to continue our development of a commercial fuel cell product for an identified high potential market that can start reaping cost-effective benefits today," said Pierre Rivard, president and chief executive officer of Hydrogenics. "The order was achieved in part by setting a new industry benchmark for volume production, enabling significant cost reductions that can be passed to the customer. Here is proof that the fuel cell industry has made real progress in getting to a pricing structure that offers commercial potential for substantial and growing markets."

Hydrogenics: [http://www.hydrogenics.com/ir\\_newsdetail.asp?RELEASEID=207097](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=207097)

### **6. Representatives Wynn and Bono Introduce Hydrogen Commission Act of 2006**

On July 27, Representatives Albert R. Wynn (D-MD) and Mary Bono (R-CA) introduced the bipartisan "Hydrogen Commission Act of 2006." The legislation would increase America's energy security by fast tracking the transition to a hydrogen economy. "The

emergence of a hydrogen economy will reduce America's dependence on foreign oil and reduce emissions. Commercializing hydrogen and fuel cells will help our nation diversify its energy portfolio, reduce the levels of dangerous emissions, and ultimately boost America's energy security," said Wynn. The bill would establish an independent, bipartisan Commission for the Deployment of Hydrogen and Fuel Cells that would develop a strategic plan for the mass commercialization of hydrogen and fuel cells at the earliest possible date. This commission would provide a comprehensive review of nationwide efforts to commercialize these technologies, which will increase public awareness, improve the effectiveness of public spending, and reduce repetitive efforts. (Editor's Note: Representatives Wynn and Bono are seeking co-sponsors for the bill. Please contact your representatives to ask them to sign on!)

Hydrogen Act: [http://www.house.gov/apps/list/press/ca45\\_bono/PR\\_HYDROGEN.html](http://www.house.gov/apps/list/press/ca45_bono/PR_HYDROGEN.html)

### **7. China's Air Pollution Reaches U.S. Skies**

Researchers say the environmental impact of China's breakneck economic growth is being felt well beyond its borders. "We're going to see increased particulate pollution from the expansion of China for the foreseeable future," said Steven Cliff, a research engineer at the University of California, Davis. He has monitoring stations on Mount Tamalpais, Donner Summit near Lake Tahoe, and Mount Lassen in far Northern California. Those sites, he says, see little pollution from local sources, and the composition of the dust particles he analyzes matches that of the Gobi Desert and other Asian sites. About a third of the Asian pollution is dust, which is increasing due to drought and deforestation, Cliff said. The rest is composed of sulfur, soot and trace metals from the burning of coal, diesel and other fossil fuels.

China: <http://www.physorg.com/news73311360.html>

### **8. California and Britain Announce Historic Partnership to Address Climate Crisis**

Governor Schwarzenegger and British Prime Minister Tony Blair recently announced a historic collaboration between California and Britain to address climate change. The leaders joined chief executive officers and board members from more than 20 major corporations at a climate action roundtable in Long Beach to outline strategies for achieving environmental goals while building market opportunities. California and Britain will develop collaborative economic, scientific and technological climate change solutions. The partnership agreed to by Governor Schwarzenegger and Prime Minister Blair commits California and Britain to work together to: evaluate and implement market-based mechanisms to accelerate emissions reductions; share research on how temperature change and efforts to fix or adapt to this problem impacts our economies; coordinate efforts by our energy sectors to move to low-emissions technologies; and enhance cooperation by our scientific communities to understand and stop climate change.

Partnership: <http://www.californiahydrogen.org/page.cfm?content=20&display=61>

Climate: <http://www.ProtectingOurEnvironment.com>

### **9. State of California Awards Contracts for Hydrogen Stations**

Contracts have been awarded by the State of California for RFP 05-609, "Development of Hydrogen Refueling Stations" - part of California's hydrogen highway network program. The Air Resources Board has awarded \$1.1 million to California State University, Los Angeles (CSULA), for a hydrogen refueling station on the CSULA campus; \$1.25 million to Pacific Gas and Electric for a hydrogen refueling station in San Carlos, and \$1.25 million for a hydrogen refueling station to be built at Scripps Ranch Renewable Energy Education Park in San Diego.

RFP 05-609: <http://www.hydrogenhighway.ca.gov/sb76/stationawardnotice.pdf>

## **10. Alameda County Completes California's First Megawatt-Class Hydrogen Fuel Cell Plant**

Alameda County officials announced on August 10 the completion of California's first megawatt-class hydrogen fuel cell cogeneration plant, an alternative energy system that transforms hydrogen from natural gas into electricity and water without combustion, and captures heat to improve efficiency. The project, engineered and installed at Alameda County's Santa Rita Jail by Chevron Energy Solutions, will provide half the facility's annual power needs, saving county taxpayers more than \$260,000 a year. The 1 megawatt plant was manufactured by FuelCell Energy, Inc. The \$6.1 million project was supported by \$2.4 million in grants and incentives. The remaining \$3.7 million -- \$2.8 million of which was financed through a California Energy Commission Partnership Program Loan, is being funded by the project's energy cost savings.

Fuel Cell: [http://media.corporate-ir.net/media\\_files/nsd/fcel/releases/FCEL0810061.pdf](http://media.corporate-ir.net/media_files/nsd/fcel/releases/FCEL0810061.pdf)

## **11. Modine, Chevron Enter Second Phase of Hydrogen Reformer Project**

Modine Manufacturing Co. said recently it is entering a second phase of a project with Chevron Corp. to develop a way of generating hydrogen on-site for use in automotive fuel cells. Modine, a Racine-based thermal management products firm, said its technology is being used in the next phase of development of the project, led by Chevron Technology Ventures L.L.C. The work is expected to produce hydrogen at a low cost and at a quality suitable for fuel cell applications. Chevron is working to develop and commercialize fuel-processing technology to convert a variety of resources such as natural gas into hydrogen. Chevron is developing a purified hydrogen unit that will be used in a hydrogen refueling station. The unit was designed and built by Chevron Hydrogen Co., a division of Chevron U.S.A. Inc., San Ramon, Calif.

Reformer: <http://milwaukee.bizjournals.com/milwaukee/stories/2006/08/07/daily21.html>

## **12. First Wind-to-Hydrogen-to-Fertilizer Plant**

With \$2.5 million in funding from the Minnesota Legislature, the University of Minnesota West Central Research and Outreach Center will soon scale up and test the world's first wind-to-hydrogen-to-ammonia plant, reports the Upper Midwest Hydrogen Initiative (UMHI). The project seeks to generate hydrogen for use in vehicles, or combine it with nitrogen stripped from the air to make ammonia fertilizer for farmers strapped by rising input costs. The vast majority of the ammonia produced today is from increasingly expensive natural gas. High domestic prices have led to the shuttering of nearly one quarter of the U.S. nitrogen fertilizer industry. According to Rolf Nordstrom, director of UMHI, "Using Minnesota wind to make nitrogen fertilizer for farmers could transform agriculture, wind and hydrogen economics overnight."

Fertilizer:

[http://wcroc.coafes.umn.edu/To\\_Develop\\_Globally\\_Unique\\_Wind\\_to\\_Hydrogen.html](http://wcroc.coafes.umn.edu/To_Develop_Globally_Unique_Wind_to_Hydrogen.html)

UMHI: <http://www.umhi.org>

## **13. GM to Show Off Drivable Version of Fuel Cell Car**

General Motors Corp. has achieved a milestone in its quest to bring a hydrogen fuel cell-powered vehicle to market, announcing that it now has a drivable version of its Sequel concept car, which debuted at the 2005 North American International Auto Show in Detroit. The Sequel, which looks like a shrunken minivan and has a range of 300 miles, will be shown to reporters next month in California, said GM Chairman and Chief Executive Rick Wagoner at an August 10 speech at the Center for Automotive Research Management Briefing Seminars in Traverse City, MI. But production and sale of the Sequel is a long way off. Wagoner wouldn't give a time estimate for when the public could buy one.

GM:

<http://www.freep.com/apps/pbcs.dll/article?AID=/20060811/BUSINESS01/608110405/1014>

#### **14. FST Energy Demonstrates Product that Eliminates Fuel Cell Dependence on Hydrogen**

FST Energy, Inc., a hydrogen storage, transport, and distribution company, recently announced a significant breakthrough for the emerging fuel cell market by eliminating the need for metal hydrogen storage cylinders. The FST Fuel Cassette(R) system uses a proprietary chemical reaction to generate 300 percent more hydrogen at 1/3 the weight of pressurized cylinders. FST is currently demonstrating its technology to customers in its Northern California labs and expects to produce its first field test units by the end of the year.

FST: <http://www.fstenergy.com>

#### **15. Trade Mission to Brazil on Renewable Energy and Biofuels**

Global California, the Silicon Valley Center for International Trade and Development and West Valley College are hosting an exclusive trade mission to Brazil September 16-23, 2006 to explore renewable energy and opportunities in ethanol, biodiesel and hydrogen. Energy companies, manufacturers, and others interested in exploring the renewable energy sector in Brazil are invited to attend. In addition to participating in tours of ethanol and biodiesel plants and research labs, and participating in receptions with Brazilian energy companies in Sao Paulo and Rio de Janeiro, trade mission members will visit the National Reference Center of Hydrogen Energy. For more details, contact [citd@svcitd.org](mailto:citd@svcitd.org), or call (800) 769-6034.

#### **16. CHBC Explores Creating Political Action Committee and Fleet Users Group**

Responding to interest expressed by members, CHBC is exploring starting a Political Action Committee and Fleet Users Group. If you are interested in participating in either of these programs and helping to define their goals, please email your name, firm, title, and contact info to Managing Director Catherine Rips, [info@californiahydrogen.org](mailto:info@californiahydrogen.org). Be sure to indicate which of the committees is of interest. Please note, membership in CHBC is a requirement for participating.

#### **17. NHA Renewable Energy Forum, Oct 4-5, Albuquerque**

This forum, the first sponsored by the National Hydrogen Association and its newly-established Renewable Hydrogen Working Group (RHWG), is intended to objectively promote the renewable production of hydrogen by identifying and addressing the issues, challenges, and opportunities associated with related technologies, infrastructures, and economics of each of the renewable resources.

Renewables Forum: <http://www.hydrogenassociation.org/renewablesForum/index.asp>

#### **18. ARB Symposium Oct 12 in Sacramento**

On October 12, 2006, Air Resources Board (ARB) staff will hold a symposium in Sacramento to discuss development of the federal 8-hour ozone and fine particulate matter (PM 2.5) attainment plans. The symposium will outline the state's standing in relation to the federal standards, explore what current science says it will take to meet the standards, and discuss the statewide strategy under development. ARB staff will discuss options under consideration to reduce emissions from sources under state and federal control, including sources addressed in the Air Resources Board's Goods Movement Emission Reduction Strategy and Diesel Risk Reduction Plan. For more information, please contact Carol Sutkus of ARB's Planning and Technical Support Division at (916) 322-1229 or [csutkus@arb.ca.gov](mailto:csutkus@arb.ca.gov).

### **19. Dec 7 Meeting Cancelled; Save These Dates in 2007**

Due to industry conflicts, CHBC has cancelled its December 7, 2006 Dinner Meeting and Holiday Party. Instead, we've scheduled our first meeting in 2007 for Thursday, January 18. The Thursday date was selected in response to requests from industry members who travel from the East. (What better time for a long weekend in California than January?) Details will be announced at a later time, but for now, please delete December 7 from your calendars and save these dates instead: Thursday January 18, Friday April 27, Friday July 27. A meeting date in October 2007 will also be announced at a later date. CHBC: <http://www.californiahydrogen.org/page.cfm?content=16>

### **20. Silver and Gold Member Benefits**

CHBC gives a big thanks to Gold Member Hydrogenics and to our growing list of Silver Members, all major contributors to our growth and success. We also want to welcome new member David Nori. We appreciate your support! Gold Membership includes two free registrants to all CHBC meetings for one year as well as five reduced-price registrations and other marketing benefits. To inquire about membership, contact Managing Director Catherine Rips, [info@californiahydrogen.org](mailto:info@californiahydrogen.org).

Gold Members: <http://www.californiahydrogen.org/page.cfm?content=61>

Silver Members: <http://www.californiahydrogen.org/page.cfm?content=33>

### **21. 2006 CHBC Board of Directors**

President - Henry Wedaa; Vice President - Paul Scott, ScD; Managing Director - Catherine Rips; Secretary - Josh Mauzey; Treasurer/Communications Chair: Jerald Cole; Membership Chairman - Mark Abramowitz; Fleets Chair - John Addison; Program Chairman - Henry Wedaa; Director at Large - Gary Dixon; Director at Large - John Williams, PE; Ex-Officio Government Liaison - Shannon Baxter-Clemmons, PhD. To contact the board, please email: [info@californiahydrogen.org](mailto:info@californiahydrogen.org).

### **22. Send Us Your News**

We welcome important news from our members for inclusion on our website and in next month's report. Please send it to: [info@californiahydrogen.org](mailto:info@californiahydrogen.org). Please also feel free to forward the newsletter to your associates. And thanks to the Canadian Hydrogen Association for its distribution of our information. We appreciate it!

More H2 Fleet News: <http://www.cah2report.com>

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*John Addison, Contributing Editor*  
*Catherine Rips, Publisher / Editor*