

California Hydrogen Business Council July 2005 Report

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1. Welcome New Members

CHBC welcomes a new-old Silver member, ApolloPower (www.ApolloPower.com), one of our first corporate members and a longtime supporter. We also welcome new individual member Robert Dickler, perhaps our first Austrian member! We appreciate your interest!

2. California Hydrogen Business Council September 16, 2005 General Meeting

CHBC's next day-long conference (8 a.m. to 5 p.m.), to be held at South Coast Air Quality Management District (AQMD), will feature updates on hydrogen activities at the California Hydrogen Highway, AQMD, and University of California - Irvine; and the first panel of speakers with hydrogen "Products for Sale!" In keeping with our recent tradition, attendees who stay until the end are eligible for great door prizes. In keeping with another great tradition, we're seeking a meeting sponsor! Please contact Managing Director Catherine Rips, info@californiahydrogen.org, if you're interested in sponsorship. To view the complete agenda, and/or to register, click the link. Discounted pre-registration prices are in effect.

<http://www.californiahydrogen.org/page.cfm?content=48>

3. California Takes Leadership in Reducing Greenhouse Gases

Declaring climate change to be an indisputable threat, Gov. Arnold Schwarzenegger unveiled a plan to combat global warming by setting goals for reducing California's emissions of greenhouse gases. "Today, California will be a leader in the fight against global warming," Schwarzenegger told a United Nations conference on the environment recently. "I say the debate is over. We know the science, we see the threat and we know the time for action is now." Schwarzenegger's plan calls for reducing the state's emissions of greenhouse gases to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. Under the Governor's Executive Order, Terry Taminien, secretary of CalEPA, will be charged with overseeing efforts to meet those goals, and will report on the state's progress in January. Subsequent reports will be issued at six month intervals.

<http://www.photos.gov.ca.gov/essay61.html>

4. Dr. Alan Lloyd to receive Grove Medal at 9th Annual Symposium

CHBC friend and longtime hydrogen advocate Dr. Alan Lloyd, Secretary of the California Environmental Protection Agency, will be distinguished with the award of the Grove Medal at the 9th Grove Fuel Cell Symposium in London on October 4. Dr. Lloyd is co-chair of the California Stationary Fuel Cell Collaborative, recent recipient of NHA Lifetime Membership honors, and is former chair of the California Air Resources Board and California Fuel Cell Partnership. International delegates attending the Grove conference look forward to a current and in-depth look at the latest technological advances in fuels and fuel cell systems.

<http://www.grovefuelcell.com/index.htm>

5. DOE Announces \$64 Million in Hydrogen R&D Projects

The U.S. Department of Energy (DOE) announced the selection of 70 hydrogen research and development projects that will receive \$64 million in funding from the DOE Office of Science over the next three years. The projects will tackle five main research areas: 1) materials for hydrogen storage; 2) membranes for fuel cells and for separating hydrogen from other gases and purifying it; 3) nanoscale catalysts for hydrogen production, storage, and use; 4) production of hydrogen from solar energy; and 5) hydrogen production processes that mimic or make use of biological processes that generate hydrogen.

http://www.energy.gov/engine/content.do?PUBLIC_ID=17971&BT_CODE=PR_PRESSRELEASES&TT_CODE=PRESSRELEASE

6. Honda Leases First FCX to Private Customer

June 29 at the Peterson Automotive Museum in Los Angeles, American Honda Motor Co. delivered the keys of an FCX fuel cell vehicle to Redondo Beach, CA residents Jon and Sandy Spallino. Their \$500/month two-year lease includes license and registration, insurance and maintenance on the vehicle. Honda Fuel Cell Program Manager Steve Ellis, emcee, introduced speakers Dr. Alan Lloyd, Cal-EPA Secretary, and John Mendel, Honda sr. vice president for Automotive Operations. During a ceremonial test drive of the amazingly quiet vehicle, the "world's first fuel cell family" waved to the press and assembled guests. The Spallinos will use the 190-mile range car shopping, taking the girls to school, and driving to work. Refueling is not expected to be a problem, as the vehicle is equipped with a voice activated navigational system that automatically locates the nearest hydrogen refueling station.

<http://www.hondanews.com/CatID1001?mid=2005062944530&mime=asc>

7. World's Largest Gathering of Hydrogen Fuel Cell Vehicles

The California Fuel Cell Partnership showcased the world's largest gathering of hydrogen fuel cell vehicles on World Environment Day at Civic Center Plaza in San Francisco. Thousands of dignitaries, journalists and interested public had a first hand opportunity to look at the vehicles and learn about hydrogen and fuel cell technology. The display area included displays on hydrogen production: a steam reformer and solar electrolyzer, and various dispensers. The highlight of the second day included a fuel cell vehicle caravan drive for the mayors, including two fuel cell buses. <http://www.caftp.org/events.html>

8. Toyota Develops High-Pressure Hydrogen Tanks

Toyota Motor Corp. has developed 35MPa and 70MPa high-pressure hydrogen tanks for use in fuel cell vehicles. The new Toyota high-pressure hydrogen tanks employ an anti-leak liner made of high strength nylon resin with superior hydrogen permeation-prevention performance. The tanks also feature an all-composite structure concealed by a carbon fiber exterior, making them light and extremely strong.

http://www.h2cars.biz/artman/publish/article_724.shtml

9. Plug Power and FDT Enter Agreement

Plug Power Inc. announced an agreement with FDT Associates Ltd. (FDT), under which FDT will market, distribute, sell and service Plug Power's GenCore backup power products to the telecommunication industry throughout the United Kingdom. For the past 14 months, Plug Power has been providing backup power to a remote cell tower in Elgin, Scotland, in collaboration with FDT and their customer Orange. The system has provided

more than 2,750 hours of backup power to the site since installation.
<http://www.plugpower.com/news/press.cfm>

10. UTC Reaches One Billion Hour Landmark

UTC Power has accumulated more than one billion kilowatt-hours of energy with its PureCellTM 200 power plant solution, setting a new industry standard. This is enough energy to power more than 91,000 U.S. homes for one year. The sites have achieved an average electric efficiency of 38 percent, and when using exhaust heat recovery, the total efficiency reaches levels exceeding 80 percent.

<http://www.utcfuelcells.com/utcpower/news/archive/2005-05-24.shtm>

11. SHEC Labs plans Renewable Solar Hydrogen Pilot Plant

SHEC-Labs' prototype solar hydrogen generator has now operated for approximately 1,200 hours with no noticeable coking or degradation of the catalysts. Hydrogen production is near the theoretical maximum at approximately 66% in the product gas stream with a 98.2% mol conversion of the feed methane. The estimated maximum hydrogen production with the unit is approximately 3,500 kg per year with minor modifications to the operating pressure and reactor configuration and an increase in the solar mirror area. The next stage of development is anticipated to be a commercial-scale demonstration at a landfill gas site using 40,000 kg per year hydrogen production modules. This one project (a small-to-medium sized landfill gas project) will prevent more than 1.6 million tonnes of carbon dioxide equivalent (CO₂e) from entering the atmosphere over the next twenty years.

<http://www.shec-labs.com/press/releases/2005Jun1press.php>

12. DuPont Unveils New MEA

DuPont Fuel Cells unveiled its latest technology, DuPont Gen IV, for a new generation of Membrane Electrode Assemblies (MEA) components enabling direct methanol fuel cells with improved overall power performance and longer run-times. DuPont Gen IV MEA technology requires significantly less catalyst loading compared with the previous generation, while still delivering approximately a 20 percent increase in power density and well over two times improvement in durability and reliability leading to more cost-effective fuel cell systems.

http://www.dupont.com/fuelcells/pdf/pressrel_05232005.pdf

13. Proton Energy Signs Agreements with Praxair and Airgas

Praxair, Inc. has signed an agreement with Proton Energy Systems, Inc. to become the exclusive distributor in Canada and a U.S. distributor for Proton's advanced on-site hydrogen generation systems for the electric utilities industry and other applications. Separately, Airgas has announced a three-year agreement for its regional companies to market and distribute Proton Energy Systems' proprietary HOGEN[®] on-site hydrogen generation systems to customers in the United States.

http://www.protonenergy.com/company/news.html?news_id=17518&year=2005&month=5

14. New NHA Website

The website for the National Hydrogen Association has been changed to www.HydrogenAssociation.org

15. New Hydrogen Fact Sheet

A new fact sheet has been added to the California Hydrogen Highway Network web page that describes how hydrogen is the next step in air quality improvements in California. To find a copy of the fact sheet, please visit <http://www.hydrogenhighway.ca.gov/whatsnew/whatsnew.htm>

16. CHBC 2005 Meeting Dates - Save These Dates

September 16 - SCAQMD, November 18 - So Cal Location TBD

17. CHBC Silver Members

CHBC gives a big thanks to our growing list Silver Members who are major contributors to our growth and success. Click this link to learn about our Silver Members: <http://www.californiahydrogen.org/page.cfm?content=33>

18. 2005 CHBC Board of Directors

President - Henry Wedaa
Vice President - Paul Scott, PhD
Secretary - Josh Mauzey
Treasurer - John Williams, PE
Managing Director - Catherine Rips
Membership Chairman - Gene Johnson

Dinner Meeting Chairman - Elias Azrak
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Program Chairman - Henry Wedaa
Director at Large - Gary Dixon
Director at Large - Jon Slangerup
Ex-Officio Government Liaison - Shannon Baxter, PhD
To contact the board, please click info@californiahydrogen.org.

19. Be a Member of the California Hydrogen Business Council

Be involved with the leaders in making the hydrogen economy a reality. CHBC is a non-profit organization, which offers a common meeting ground for discussing the technologies, methodologies, and opportunities in the hydrogen economy. Silver Membership is \$1,000 per year and allows organizations to send five people to each meeting at reduced member rates, plus provides valuable marketing opportunities. Individual membership is \$200 per year. To join, visit our website or call (760) 341-2924 with your credit card.

We welcome important news from our members for inclusion on our website and in next month's report. Please send to: info@californiahydrogen.org. Thank you for helping build a great organization.

*CHBC Report Publisher, John Addison
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