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1. Next CHBC General Meeting April 27, Sacramento

April marks our annual meeting in Northern CA. Speakers will include Dr. Alan Lloyd, ICCT; Kevin Harris, Hydrogenics; Jeff Grant, Ballard Power Systems, Woody Clark, Los Angeles Community College District; a panel on infrastructure development and others, to be announced. Legislators and staffers are welcome to attend and may register at a special discounted price. Following the Sacramento meeting, CHBC will hold day-long conferences on Friday, July 27 (location to be announced) and Thursday, October 25 (location to be announced). More details will be released soon.

[April Meeting](http://www.californiahydrogen.org/page.cfm?content=45&event_ID=66): http://www.californiahydrogen.org/page.cfm?content=45&event_ID=66

2. DOE Announces Funding Opportunities

The Department of Energy has announced several funding opportunities: 1) Hydrogen and Fuel Cell Analysis: Lessons Learned from Stationary Power Generation, DE-PS36-07GO97010, deadline - April 18; 2) Hydrogen and Fuel Cell Analysis: Environmental Impacts of Hydrogen Systems, DE-PS36-07GO97011, deadline - April 18; 3) Research and Development for Hydrogen Production and Delivery Technology, DE-PS36-07GO97009, deadline - March 15.

[DOE Solicitations](http://www.fuelcellsworks.com/Suppage6881.html): <http://www.fuelcellsworks.com/Suppage6881.html>

3. ARB Solicits Proposals for \$25 Million in Available Alternative Fuel Grants

The California Air Resources Board (ARB) is accepting grant proposals for \$25 million in funding from the Alternative Fuels Incentives Programs for incentivizing biofuels and high

efficiency, low emitting vehicle technology. These funds are to be awarded by June 30, 2007. ARB and CEC staff are proposing that monies be expended in the following categories: Infrastructure for dispensing E85 (fuel that is 85% ethanol and 15% gasoline) and potentially other alternative fuels (\$7 million); startup of small biofuels production facilities (\$5 million); plug-in hybrid electric vehicle demonstration projects (\$5 million); transit bus projects (\$2 million); incentives for PZEVs and ZEVs (\$1.5 million); alternative fuel vehicle research (\$3.5 million); funding for consumer education and outreach (\$1 million) .The deadline for submitting a grant proposal is March 12, 2007.

[ARB](http://www.arb.ca.gov/newsrel/nr021307.htm): <http://www.arb.ca.gov/newsrel/nr021307.htm>

4. Throne Speech Affirms BC Hydrogen Highway

The third session of the 38th British Columbia parliament was launched February 13 with a speech from the throne that calls for bold action to reduce greenhouse gas emissions, an announcement of \$89 million in federal/provincial funding for 20 fuel cell buses and fueling stations for the BC hydrogen highway from Whistler to Vancouver, Surrey and Victoria, and a commitment to build the Hydrogen Highway from San Diego to Whistler by 2020. It would be the longest hydrogen highway in the world. The province also plans to work with Pacific Coast governors on plans to reduce greenhouse gas emissions.

[British Columbia](http://www2.news.gov.bc.ca/news_releases_2005-2009/2007OTP0014-000128.htm): http://www2.news.gov.bc.ca/news_releases_2005-2009/2007OTP0014-000128.htm

5. Hybrids, Hydrogen Fuel Cells Top Choices For Car Buyers

More than 3,500 people who recently purchased a new car or planned to buy one were interviewed for a survey conducted by PULS, a German-based international market research firm. Overall, hybrids were the car of choice (42.7%) followed by hydrogen fuel cell powered cars (41.9%). A smaller number of car buyers, 38.1%, perceive the future to be driven by fuel types derived from plants. Opinions about diesel and gasoline engines were surprising, according to the firm, with only 11.5% of those interviewed consider these traditional engine types to be future oriented. Looking at the Chinese market, 50% of purchasers prefer hydrogen fuel cell compared to 5.2% who chose diesel engines.

[Car Buyers](http://www.industryweek.com/ReadArticle.aspx?ArticleID=13509&SectionID=2):

<http://www.industryweek.com/ReadArticle.aspx?ArticleID=13509&SectionID=2>

6. Intelligent Energy and Suzuki Announce Partnership

Intelligent Energy will employ its proprietary PEM (Proton Exchange Membrane) technology to deliver to Suzuki a series of advanced, compact and lightweight fuel cell systems, which are intended to become an integral part of Suzuki's future motor products. These fuel cell systems will demonstrate class-leading fuel cell performance under typical automotive environmental conditions. Intelligent Energy's unique and proprietary PEM fuel cell designs are based on the use of thin metallic bipolar plates, which make the fuel cell extremely compact and well-suited to mass manufacture.

[Intelligent Energy](http://www.intelligent-energy.com/index_article.asp?SecID=15&secondlevel=798&artid=3806): http://www.intelligent-energy.com/index_article.asp?SecID=15&secondlevel=798&artid=3806

7. Hydrogen-Powered Cars Perform Better

Cars powered by hydrogen fuel cells performed better than expected during a two-year test in Singapore, but the vehicles are not likely to be commercially viable until 2015, DaimlerChrysler said recently. Six Mercedes-Benz A-class subcompact cars clocked an average of 22,500 km and 750 hours each in the test, which started in 2004. One clocked more than 1,000 hours at the end of two years. "That's better than our expectations of 600 hours," said Christian Mohrdeick, DaimlerChrysler's director of fuel-

cell drive systems development. The trial in the city-state will be extended for another year. The second phase will test the limits of the fuel-cell stack.

[Daimler Chrysler](http://www.andhracafe.com/index.php?m=show&id=18524): <http://www.andhracafe.com/index.php?m=show&id=18524>

8. Ford Ready for Alternative Fuels of Future

Ford engineers are working on alternative-fuel powertrain systems, including hybrid, clean diesel, hydrogen combustion and fuel cell to accommodate the variety of resources and requirements around the world that will dictate which technologies are likely to catch on, says Nancy Gioia, Ford Motor Company director of Sustainable Mobility Technology Lab and Hybrid Vehicle Programs. "While there are common challenges around the world," Gioia told the Automotive World Leadership Congress, "the economic, political and social realities differ from region to region. Each region will move toward a solution based not only on the major policy issues of the time, but on the established infrastructure, political climate and unique economies as well as consumer income levels, driving habits, vehicle requirements and preferences."

[Ford](http://www.fuelcellsworks.com/Supppage6836.html): <http://www.fuelcellsworks.com/Supppage6836.html>

9. Nissan Rolls Out First Fuel Cell Car-For-Hire

If you're sans-car in Japan and want to get from A to B in green style, look no further than the X. Nissan has given one of their hydrogen fuel cell-powered X-Trail to Kanagawa Toshi Kotsu, a major chauffeured car operator. The X-Trail features a Nissan fuel cell stack/lithium ion battery combo that provides performance comparable with the gasoline model. This is all part of Nissan's plan to introduce consumers to the practical use of fuel cell vehicles, much like Ford and GM are introducing hybrid cabs to major markets.

[Nissan](http://jalopnik.com/cars/alternative-energy/nissan-rolls-out-first-fuel-cell-carforhire-238456.php): <http://jalopnik.com/cars/alternative-energy/nissan-rolls-out-first-fuel-cell-carforhire-238456.php>

10. Fuel Cell Car Design Takes Peugeot Top Prize

A fuel cell car has taken top prize in the fourth online Peugeot design competition, the Peugeot Design Contest 2007. Designed by Mihai Panaitescu, a 20-year-old Romanian student studying in Turin, the so-called Flux car runs on a hydrogen-powered fuel cell engine and was selected from a record 4,029 entries. Judges said the fuel cell concept car was chosen as the winner because of its consistency with the key criteria of being light, efficient and with an environmentally-friendly design. The fuel cell car will now be built as a full-scale model and exhibited in the autumn car show in Frankfurt.

[Peugeot](http://www.fuelcelltoday.com/FuelCellToday/IndustryInformation/IndustryInformationExternal/NewsDisplayArticle/0,1602,8810,00.html):

<http://www.fuelcelltoday.com/FuelCellToday/IndustryInformation/IndustryInformationExternal/NewsDisplayArticle/0,1602,8810,00.html>

11. Clean Energy Commissions HCNG Station

Clean Energy recently commissioned a hydrogen/compressed natural gas (HCNG) station in Port Coquitlam, British Columbia. The station is part of the BC Hydrogen Highway's Integrated Waste Hydrogen Utilization Project (WHUP), a multi-faceted synergistic collaboration that uses hydrogen from a vented waste stream in North Vancouver in infrastructure and end use applications. The 3-year \$18 million CDN initiative is a collaboration of Sacre-Davey, Westport Innovations, PowerTech Labs, HTEC, Clean Energy, Dynetek, Nuvera, QuestAir, Easywas, Newalta, and Translink. The HCNG station will be used to fuel heavy-duty transit buses.

[HCNG](http://www.sacre-davey.com/hydrogenprojects.html): <http://www.sacre-davey.com/hydrogenprojects.html>

12. NFCRC Opens UCI Hydrogen Fueling Station

The National Fuel Cell Research Center at the University of California- Irvine (UCI) held the official opening of the UCI Hydrogen Fueling Station on February 27. Air Products and

Chemicals, Inc. designed, engineered and installed the station with funding from the U.S. Department of Energy and South Coast Air Quality Management District. The station features dual-pressure dispensing technology that allows drivers to select the pressure at which they refuel their hydrogen vehicles.

UCI: http://today.uci.edu/news/release_detail.asp?key=1577

13. Schatz Center Readies Hydrogen Station

Engineers at Humboldt State University's Schatz Energy Research Center are designing and will install a campus hydrogen fueling station to support a hydrogen-powered Toyota Prius for two years as part of California's Hydrogen Highway Program and the Schatz Center's world-renowned initiatives to foster the use of renewable energy. The Schatz Center has secured \$350,000 from Chevron Technology Ventures, a division of Chevron USA, toward equipment and materials for the hydrogen fueling station, which will be installed at a site adjoining the north end of HSU's Plant Operations yard.

Schatz: http://www.times-standard.com/local/ci_5183358

14. New NREL Report Summarizes Performance of SunLine's Hydrogen Buses

The National Renewable Laboratory recently published a preliminary report on its evaluation of hydrogen and fuel cell buses in service at SunLine Transit Agency in Thousand Palms, CA. The report includes 11 months of performance data on two hydrogen fueled buses: one fuel cell bus and one hybrid hydrogen fueled internal combustion engine bus (HHICE). Data on 5 new CNG buses are provided as a baseline. The 40-ft Van Hool fuel cell bus features an electric hybrid drive system by ISE Corp. with UTC Power's PureMotion(TM) 120 Fuel Cell Power System and ZEBRA batteries for energy storage. The HHICE bus from New Flyer has essentially the same electric hybrid drive system from ISE Corp., but with ultracapacitors for energy storage and a Ford V10 Triton engine customized to operate on hydrogen fuel.

SunLine Report:

http://www.eere.energy.gov/hydrogenandfuelcells/tech_validation/pdfs/41001.pdf

CA Transit Report:

http://www.eere.energy.gov/hydrogenandfuelcells/tech_validation/ca_transit_agencies.html

15. Members Committed to Energy Independence Introduce Hydrogen Legislation

Congressmen Lee Terry (R-NE), Mike Doyle (D-PA), Zach Wamp (R-TN), and Albert Wynn (D-MD) introduced bipartisan legislation to promote the widespread adoption of hydrogen fuel cell technology. This legislation would extend the current federal tax credit on fuel cell equipment through 2013 and provide a tax credit for hydrogen fuel consumed in energy conversion. This legislation would extend the current federal tax credit for 30 percent of expenditures on fuel cell equipment (up to \$1000 per kilowatt) through 2013. It would also provide a tax credit for 30 percent of the cost of hydrogen fuel consumed in energy conversion per year (up to \$1500 per energy conversion device, whether it be a fuel cell or internal combustion engine).

Legislation: <http://www.swnebr.net/newspaper/cgi-bin/articles/printversion.pl?159628>

16. SC Senate Panel OKs Incentives for Development of Fuel Cells

Efforts to establish South Carolina as a major player in the hydrogen fuel cell technology industry moved forward recently when the state Senate Finance Committee approved a bill that would give grants and incentives to potential investors. The House Ways and Means Committee is considering a similar bill, backed by Speaker Bobby Harrell, higher education and industry leaders, including the Savannah River National Laboratory. The bills would create the South Carolina Hydrogen Infrastructure Development Fund within

the state treasurer's office. The fund would pay for \$15 million in grants to the nonprofit South Carolina Hydrogen & Fuel Cell Alliance and others, no later than mid-2012, to support the development of hydrogen fuel cell technology. Taxpayers who contribute to the fund also would get a tax credit equal to 25 percent of their fund donation. (News Flash: Former CHBC Government Liaison Shannon Baxter-Clemmons has just moved to SC to take over an industry initiative. More details next month. Good luck, Shannon!)

[South Carolina](http://www.fuelcellsworks.com/Supppage6817.html): <http://www.fuelcellsworks.com/Supppage6817.html>

17. Hydrogen Ferry to Serve Amsterdam Commuters

A hydrogen ferry will be the latest addition to Amsterdam's fledgling fuel cell transport network, which so far includes hydrogen-powered buses and boats on a trial basis. The H-ferry will be added to the choice of water transport behind Amsterdam's central train station. The 100-passenger hydrogen boat will connect the two banks of the river IJ, and should initially serve around 600 employees of Shell Amsterdam by ferrying them to the company's New Technology Centre across the river from the city centre. A consortium of international companies is cooperating on developing and building the boat, which could hit the waves later this year, together with a fueling station which is to go up in North Amsterdam.

[Ferry](http://www.edie.net/news/news_story.asp?id=12617&channel=0): http://www.edie.net/news/news_story.asp?id=12617&channel=0

18. Western Australia Government to Promote Hydrogen and Fuel Cell Technology

The Western Australian (WA) Government has joined forces with representatives from London, Barcelona, Amsterdam, Berlin, Hamburg and British Columbia to form an international working group to promote hydrogen and fuel cell technology. WA Planning and Infrastructure Minister Alannah MacTiernan says the formation of the working group was a vital step towards the commercialization of hydrogen-powered public transport. The working group aims to have hydrogen-powered buses operating in public transport fleets from 2008.

[Western Australia](http://www.busnews.com.au/index.cfm?storyid=30340&cp=displaystory):

<http://www.busnews.com.au/index.cfm?storyid=30340&cp=displaystory>

19. South Africa Considers Hydrogen Future

South Africa is looking to the development of hydrogen power as a way to solve its increasing energy crisis. The country has suffered a number of blackouts over recent times, causing disruption to mining and other operations, and with more expected in the future, the South African government is now considering implementing hydrogen power to fill the current gap between supply and demand. As South Africa is one of the world's largest producers of platinum, the country could be using the precious metal more in its efforts to meet its energy needs and become a major force in the future of sustainable energy supply.

[South Africa](http://www.platinum.matthey.com/media_room/1171969212.html): http://www.platinum.matthey.com/media_room/1171969212.html

20. Acta Catalyst Demonstrated in Tokyo

Acta, the AIM-listed catalyst developer, has demonstrated its new catalyst for hydrogen generation at the world's largest fuel cell exhibition in Tokyo. This is the first public demonstration of what is a new exciting breakthrough in the critical area of supplying hydrogen to power fuel cells for the automotive and other industries. Acta has successfully developed a new catalyst that will produce hydrogen from ammonia. Ammonia is one of the most practical hydrogen carriers available and is already one of the most widely used and transported chemicals in the world. It is far easier and safer to handle than pure hydrogen and contains no carbon, which produces greenhouse gases.

[Acta](http://www.fuelcellsworks.com/Supppage6923.html): <http://www.fuelcellsworks.com/Supppage6923.html>

21. Now You Can See Invisible Hydrogen Flames

Spectrex, the world's leader in the development and implementation of optical flame and gas detection and suppression systems, has launched its unique Hydrogen Flame Detector, model 20/20SH, to address the needs of a wide range of industrial and commercial facilities that use hydrogen fuel cells, hydrogen gas generators and hydroxyfuels. Most existing optical flame detectors are designed for detection of hydrocarbon flames and are based on the CO₂ emissions: these cannot detect hydrogen flames that emit in the water vapour (H₂O) band, with no emissions in the CO₂ range. UV and some UV/IR optical flame detectors that can detect the hydrogen flame have a very limited detection range.

[Spectrex](http://www.processingtalk.com/news/sec/sec102.html): <http://www.processingtalk.com/news/sec/sec102.html>

22. NHA March 19-22, 2007

The 2007 National Hydrogen Conference and Expo US will be held March 19-22 in San Antonio, TX. The preliminary program includes presentations by many CHBC Silver members, including BMW, Honda, Linde, Shell Hydrogen and others. Also on the program are General Motors, Chevron, Toyota and the U.S. Army Research, Development and Engineering Command. A Ride & Drive will once again be managed by the California Fuel Cell Partnership. Immediately following the NHA Conference, a one-day training seminar will be held in San Antonio on March 23 covering hydrogen and natural gas vehicle safety issues.

[NHA 2007](http://www.hydrogenconference.org/): <http://www.hydrogenconference.org/>

[Safety Seminar](http://www.hydrogenconference.org/engvaSeminar.asp): <http://www.hydrogenconference.org/engvaSeminar.asp>

23. Member Benefits

Platinum membership is \$5,000 per year and includes your logo on each page of the CHBC website for one year, your firm credited as sponsor of two General Meetings during the year, and two free registrations at each CHBC meeting for 12 months. Gold membership is \$2,500 and includes your firm credited as a sponsor of one General Meeting during the year and one free registration to each CHBC General meeting for one year. Silver membership is the buy of the century at \$1,000; Individual membership is \$200. Please see <http://www.californiahydrogen.org/page.cfm?content=12> for full details. To inquire about membership, contact Managing Director Catherine Rips, info@californiahydrogen.org.

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

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

24. Board of Directors

President - Henry Wedaa; Vice President - Paul Scott, ScD; Managing Director - Catherine Rips; Secretary - Josh Mauzey; Treasurer: 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; Director at Large - Allan Bedwell; Director at Large - Fred Silver; Ex-officio Government Liaison - Analisa Bevan. To contact the board, please email: info@californiahydrogen.org.

25. Send Us Your News!

We welcome important news from our members for inclusion on our website and in next month's report. In addition to being distributed to CHBC's list of over 2200 industry members, our newsletters are forwarded to thousands more through the Canadian Hydrogen Association and FuelCellMarkets.com. Please send to:

info@californiahydrogen.org. Thank you for helping build a great organization.

[CHA](http://www.h2.ca/): <http://www.h2.ca/>

[Fuel Cell Markets](http://www.fuelcellmarkets.com/): <http://www.fuelcellmarkets.com/>

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