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1. Welcome New Members

California Hydrogen Business Council extends a warm welcome to the first Silver member of the new year: ClearEdge Power. We appreciate your support!

[ClearEdge](http://www.clearedgepower.com/): <http://www.clearedgepower.com/>

2. CHBC Meeting at Honda Now Feb 1

Friday, February 1, 2008, CHBC will hold its first General Meeting of the new year, hosted and sponsored by American Honda Motor Corp. To be held at the automaker's Torrance, CA headquarters, the meeting will be highlighted by a presentation on Honda's very exciting recent hydrogen activities. There's so much to see at this wonderful facility we urge everyone to join us! Please note the date has been changed from January 18 due to a conflict with the Detroit Auto Show. Watch your email for full details, soon to follow. Please also calendar these additional dates for CHBC General Meetings in 2008: May 16, September 12 (Northern CA), and December 5, locations to be announced.

[Feb 1](http://www.californiahydrogen.org/page.cfm?content=45&event_ID=74): http://www.californiahydrogen.org/page.cfm?content=45&event_ID=74

3. Bush Signs Energy Bill Mandating Tougher Efficiency Standards

December 19, President George W. Bush signed legislation aimed at cutting U.S. dependence on overseas energy by setting tougher mandates for carmakers, electric appliance manufacturers and ethanol producers. The law contains the first new vehicle fuel economy law in 32 years and mandates a fourfold increase in the use of biofuels. It also phases out traditional light bulbs and places the first limits on the amount of water used in new washing machines and dishwashers. Before passing the measure, the Senate dropped a

provision that would have extended tax credits to wind, solar and biomass power producers and raised taxes on oil and gas companies by about \$13 billion over 10 years to pay for that. The Senate also dropped a requirement that some utilities get 15 percent of their power from renewable sources.

[Energy Bill](http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aOUBoequvcVM): <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aOUBoequvcVM>

4. California to Appeal Denial of State's Tailpipe Emissions Waiver Request

December 21, Gov. Arnold Schwarzenegger announced his intention to file a lawsuit in the District of Columbia Court of Appeals to challenge the U.S. Environmental Protection Agency's (EPA) denial of California's tailpipe emissions waiver request. The lawsuit will be filed as soon as possible, which is expected to be within the next three weeks. Gov. Schwarzenegger issued the following statement: "I am extremely disappointed by EPA's decision to block the will of millions of people in California and 16 other states who want us to take tough action against global warming. EPA's denial of our waiver request to enact the nation's cleanest standards for vehicle emissions is legally indefensible and another example of the failure to treat climate change with the seriousness it demands. We will sue to overturn this ruling as quickly as possible. I have no doubt that we will prevail because the law, science and the public's demand for leadership are on our side. Anything less than aggressive action is inexcusable."

[CA - EPA](http://gov.ca.gov/press-release/8359/): <http://gov.ca.gov/press-release/8359/>

5. U.S. EPA, Region 9 RFP FY 2008 Deadline: February 15, 2008

EPA Region 9 is soliciting proposals on a competitive basis for innovative projects that reduce emissions from existing diesel engines within the jurisdiction of Region 9, which includes California. Projects must demonstrate effective emissions reductions (including but not limited to reductions in particulate matter, carbon dioxide, carbon monoxide, nitrogen oxides, and hydrocarbons) from existing diesel engine operations through a variety of strategies such as emissions control technologies; idling reduction strategies; cleaner burning fuels; and alternative and biofuels production, distribution, and use. All projects must demonstrate applications, technologies, methods or approaches that are new, innovative or experimental. \$500,000 is expected to be awarded.

[EPA Grants](http://www.epa.gov/region09/funding/applying.html): <http://www.epa.gov/region09/funding/applying.html>

6. Honda Eyeing Mass Production of Fuel Cell Vehicles in 10 Yrs: Pres.

Honda Motor Co. may be able to start mass-producing fuel cell vehicles within 10 years, President Takeo Fukui has said in an interview with Japan's Jiji Press. The major Japanese automaker is set to release the FCX Clarity fuel cell vehicle on a lease basis in Japan and the United States in 2008. The FCX Clarity is the second fuel cell vehicle model for Honda after the FCX, which was launched in 2002. The major hurdle to the spread of fuel cell vehicles is the lack of facilities to supply hydrogen. Honda is developing a home-use system for producing hydrogen from natural gas. Fukui said that once the technical problem is resolved, infrastructure for supplying fuel would be established.

[Honda](http://www.jpancorp.net/Article.Asp?Art_ID=16536): http://www.jpancorp.net/Article.Asp?Art_ID=16536

7. BMW Hydrogen 7 to Debut in Australia in January 2008

BMW Group Australia will demonstrate its leadership of emission-free CleanEnergy mobility with a unique week-long public expo to be held later this month. The first-of-its-kind exhibition will comprise a display of BMW EfficientDynamics technology at Melbourne's forward-looking Federation Square from 21 - 29 January. The star of the show will be a fleet of BMW Hydrogen 7 limousines which will be used to provide real-time driving experiences for select political and business leaders, as well as a key environment and media opinion formers. The BMW Hydrogen 7 cars appear in Melbourne as part of a world tour to

demonstrate the practicality of the technology and expose it as widely as possible. As part of this global exposure program, BMW has been shuttling environmentally-minded high-profile personalities such as Cate Blanchett, Geoffrey Rush, Brad Pitt, Angelina Jolie, Richard Gere, Jay Leno, and Placido Domingo to public engagements in the BMW Hydrogen 7 limousines.

[BMW](http://autoweb.com.au/cms/A_109746/title_BMW-Hydrogen-7-to-Debut-in-Australia-in-January-2008/newsarticle.html): http://autoweb.com.au/cms/A_109746/title_BMW-Hydrogen-7-to-Debut-in-Australia-in-January-2008/newsarticle.html

8. Morgan Hydrogen Fuel-Cell Prototype

The Morgan Hydrogen Fuel Prototype by the British sports car manufacturer is intended to demonstrate that a vehicle that has zero emission can still be fun to drive. The "Life Car" will be very lightweight and it will have a fuel cell hybrid power train. The power train and low weight will mean the Life car will get a 200 mile range. The Morgan Hydrogen Fuel Prototype is referred to as the Life Car which stands for Lightweight Fuel Efficient Car. It is a green car that will be able to deliver when it comes to performance as well as looks and emission reduction.

[Morgan](http://news.carjunky.com/alternative_fuel_vehicles/morgan-hydrogen-fuel-cell-prototype-cdf202.shtml): http://news.carjunky.com/alternative_fuel_vehicles/morgan-hydrogen-fuel-cell-prototype-cdf202.shtml

9. Chrysler LLC Joins the California Fuel Cell Partnership

Chrysler is the newest member of the California Fuel Cell Partnership (CaFCP). "Of the fuel sources on the table for long-term future use in transportation, hydrogen holds the greatest promise," said Mark Chernoby, Vice President - Advance Vehicle Engineering, Chrysler LLC. "Collaborations such as the California Fuel Cell Partnership will help engineers develop solutions for this technology at an accelerated rate." The CaFCP is a collaboration of 34 organizations including auto manufacturers, energy providers, fuel cell technology companies and government agencies working together to promote the commercialization of hydrogen-powered fuel cell vehicles.

[Chrysler](http://www.autospectator.com/cars/chrysler-llc/0035393-chrysler-llc-joins-california-fuel-cell-partnership): <http://www.autospectator.com/cars/chrysler-llc/0035393-chrysler-llc-joins-california-fuel-cell-partnership>

10. Daimler Holds Big Stake in Fuel Cell Firm

With a share of 50.1 per cent, Daimler AG has become the majority stakeholder in Automotive Fuel Cell Co-operation, a company founded recently for fuel cell applications in the automotive sector. Nicholas Speeks, president and CEO of DaimlerChrysler Middle East, said: "Daimler has identified future fields of activity and key technologies for zero-emission mobility, and invested specifically in expanding its competencies in these fields. This majority stake in Automotive Fuel Cell Co-operation is the next consequent step in this direction." With the newly-founded company, Daimler's globally leading position in automotive fuel cell applications is to be further expanded together with Ford Motor Co. and Ballard Power Systems. A pioneer in fuel cell technology, Daimler introduced the world's first fuel cell vehicle as early as 1994. Today, the company owns the world's largest fuel cell fleet of all automakers - with over 100 vehicles.

[Daimler AG](http://www.gulfweeklyworldwide.com/article.asp?Sn=5033&Article=17681): <http://www.gulfweeklyworldwide.com/article.asp?Sn=5033&Article=17681>

11. Hydrogen Storage for Cars?

Hydrogen is the fuel of the future. Unfortunately, one problem remains: Hydrogen is a gas and cannot easily be pumped into a tank like gasoline. Storage in the form of solid hydrides, chemical compounds of hydrogen and a metal or semimetal, are good storage materials in principle, but have not been well suited to automotive applications. An American research team at the Ford Motor Co. in Dearborn and the University of California, Los Angeles, has now developed a novel hydride that could be a useful starting point for the development of

future automotive hydrogen-storage materials. As Jun Yang and his team report in the journal "Angewandte Chemie," an autocatalytic reaction mechanism causes the composite made of three different hydrides to rapidly release hydrogen at lower temperatures and without dangerous by-products.

[Hydrides](http://www.eurekalert.org/pub_releases/2007-12/w-hsf122107.php): http://www.eurekalert.org/pub_releases/2007-12/w-hsf122107.php

12. Government of Canada Supports P.E.I. Hydrogen Shuttle Bus Demonstration

Prince Edward Islanders can now take a "clean ride" around Charlottetown on a hydrogen-powered H2ICE bus. The purpose of the project is to test the hydrogen technology in a maritime climate. The Government of Canada is investing \$275,000 in the project, and the Province of Prince Edward Island and Air Liquide Canada are contributing \$100,000 and \$175,000 respectively. The two buses, provided by Ford of Canada and Industry Canada, are part of a fleet of 10 being tested in hydrogen demonstration projects across Canada. In addition to the two buses, the project involves the installation and operation of an Air Liquide Canada temporary hydrogen fuelling station. The cost of the hydrogen fuelling station is being shared by Air Liquide Canada, P.E.I. Energy Corporation and Natural Resources Canada.

[PEI](http://www.nrcan-rncan.gc.ca/media/newsreleases/2007/2007123_e.htm?rss): http://www.nrcan-rncan.gc.ca/media/newsreleases/2007/2007123_e.htm?rss

13. Hydrogenics to Provide H2 Generation System for BCT Buses

Hydrogenics Corp. announced that it has been selected by Air Liquide Canada to provide a hydrogen generation system to support BC Transit's (BCT) fleet of 20 fuel cell-powered buses. The system is anticipated to be delivered in 2008 and will be located at BC Transit's Langford Transit Centre. This onsite hydrogen generation system will be the first system sold to Air Liquide in Canada and the first system integrated into an Air Liquide fueling station in North America. Air Liquide will also build a fuelling station in Whistler. The first fuel cell buses will be tested in Victoria next summer, and when all the vehicles are ready to go, they'll be based in Whistler as part of public transportation for the 2010 Olympic Games.

[Hydrogenics](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=282074): http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=282074

[CA H2 Hwy](http://canadianpress.google.com/article/ALeqM5j6ttbmzNFNOVpHUQTD9edM9MdiPg):

<http://canadianpress.google.com/article/ALeqM5j6ttbmzNFNOVpHUQTD9edM9MdiPg>

14. Hydrogenics to Supply H2 Generation and Storage Unit to Ford Motor Co.

Hydrogenics Corp. also announced that it has been awarded a contract to supply an onsite HySTAT(TM) Hydrogen Station to Ford Motor Company's Fuel Cell Center, located beside the company's Vehicle Testing Grounds in Dearborn, MI. Built on a modular platform to serve various areas of hydrogen vehicle testing, the HySTAT-30 Hydrogen Station will generate hydrogen by electrolysis, a process involving the splitting of water into high purity hydrogen and oxygen, and then compress the hydrogen to store at 5000 psig. The hydrogen generation (electrolyzer) module will have the capacity to produce 60 kilograms of hydrogen each day and on-site storage as backup.

[Hydrogenics](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=281832): http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=281832

15. HyRadix Inc Announces Supply Agreement with Praxair India

HyRadix Inc., a leading provider of on-site hydrogen generation systems and supply solutions, has entered into an agreement with Praxair India, a subsidiary of US based Fortune 300 company, Praxair, Inc., for the supply of the HyRadix Aptus on-site hydrogen generator for industrial hydrogen applications within India. This multi-year agreement covers the certification of the HyRadix Aptus hydrogen generator via the Praxair vendor qualification process as well as the exclusive supply of the Aptus generator to Praxair in India. The Aptus hydrogen generation system allows customers to have economical on-site hydrogen production with high reliability for uninterrupted manufacturing processes. The

systems produce high purity hydrogen from a feedstock of natural gas or liquefied petroleum gas (LPG) and can be combined to generate 50 - 500 Nm³/h very economically compared to alternative means of delivered hydrogen.

[HyRadix](#):

http://www.businesswire.com/portal/site/google/index.jsp?ndmViewId=news_view&newsId=20071213005878&newsLang=en

16. Florida Opens Its Second Hydrogen Fueling Station

Florida's second hydrogen vehicle fueling location was opened in December with a ceremony in the city of Oviedo, about 10 miles northeast of Orlando, site of the state's first hydrogen station. Florida Department of Environmental Protection, (DEP) Secretary Michael Sole joined executives from Ford Motor Co., BP America, Inc., Progress Energy Florida and the U.S. Department of Energy (DOE) to officially open the new fueling station. The hydrogen demonstration project is part of an initiative unveiled in 2004 by the DOE. That same year BP and Ford selected the Sunshine State as one of three sites in the nation to demonstrate pollution free hydrogen fuel cell cars. Ford supplied the Florida DEP and Progress Energy Florida with six hydrogen powered Ford Focus fuel cell vehicles through a federal government project.

[FL Station](http://www.ens-newswire.com/ens/dec2007/2007-12-07-091.asp): <http://www.ens-newswire.com/ens/dec2007/2007-12-07-091.asp>

17. General Physics Completes Two Chevron Hydrogen Facilities

General Physics Corp. (GP), has completed construction of two demonstration hydrogen fueling stations designed by GP for Chevron Technology Ventures, a division of Chevron U.S.A. The first station was constructed at the Selfridge Air National Guard Base in Macomb County, MI., and the second station was constructed at the Progress Energy Facility located near the Orlando International Airport in Florida. The Michigan facility, part of the U.S. Department of Energy Controlled Hydrogen Fleet and Infrastructure Demonstration and Validation Program, will fuel a fleet of light-duty fuel cell vehicles. The station is one of the first at which hydrogen technology is being demonstrated in a cold climate. The Florida hydrogen demonstration station will fuel a fleet of shuttle buses powered by internal combustion engines and used to transport employees around the Orlando International Airport and the Orange County Convention Center.

[GP](http://www.gpworldwide.com/press_releases/_pr/press.asp?wh=pr-2007-12-18.pdf): http://www.gpworldwide.com/press_releases/_pr/press.asp?wh=pr-2007-12-18.pdf

18. New QuantumSphere Electrode Cuts Price of Making Hydrogen

QuantumSphere, Inc. has devised an iron-nickel power for coating an electrode that speeds up the electrolysis process, according to CEO Kevin Maloney. It's a classic nano play. Coating a surface with small, independent particles increases the reactive surface area, which means more simultaneous reactions between molecules. QuantumSphere's Stingray electrodes have more than 2,000 times more catalytic surface area than standard electrodes coated with standard sized particles. The Stingray can produce 2.4 kilograms of hydrogen in 25 minutes. Standard electrodes can take hours or day. As a result, the Stingray can produce hydrogen at \$2.50 to \$9 a kilo, not including subsidies. That's in the range that excites the Department of Energy.

[QuantumSphere](http://www.qsinano.com/news/newsletters/2007_12/f1.php): http://www.qsinano.com/news/newsletters/2007_12/f1.php

19. FuelCell Energy Completes Sale to Linde Group of 3.9MW of Renewable DG

FuelCell Energy, Inc. announced the sale of 3.9 megawatts (MW) of power plants to The Linde Group. Linde will install four power plants at various customer locations in the San Diego area which will utilize purified biogas from the Point Loma Wastewater Treatment Plant (PLWTP) as the primary fuel source. The four power plants include three 1.2 megawatt (MW) plants and one 300 kilowatt (kW) plant. Linde will use methane gas that is currently

being flared at the Point Loma Wastewater Treatment Plant (PLWTP) in San Diego to fuel the four Direct FuelCell(r) (DFC(r)) power plants. Most of the gas collected and purified by Linde will be transported off-site to three separate customer locations in southern California where DFC1500(r) ultra-clean power plants will be installed. The remainder of the methane will be used on-site to fuel a DFC300(r), which will provide renewable baseload power for Linde's purification plant.

[Linde](http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=278739): <http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=278739>

20. Raymond Corp Issues Results on Hydrogen Fuel Cell Research

The Raymond Corp. has released the initial results of its research on the performance of hydrogen fuel cells in its lift trucks and the development of indoor hydrogen fueling stations in the manufacturing environment. The firm emphasized that hydrogen fuel cell lift trucks maintain comparable performance to traditional, battery-powered lift trucks while significantly reducing refueling time and maintenance costs associated with properly handling and disposing of batteries. Refueling the fuel cell truck at an indoor refueling station takes one to five minutes versus the up to 20 minutes it takes to remove and replace a battery from the same truck model, Raymond said. The fuel cells also are environmentally clean, with only water and heat as by products, compared to lead and acid from batteries. The research is important because the industry puts about 200,000 new trucks in the market each year.

[Raymond Corp](http://www.pressconnects.com/apps/pbcs.dll/article?AID=/20071224/NEWS01/712240341):

<http://www.pressconnects.com/apps/pbcs.dll/article?AID=/20071224/NEWS01/712240341>

21. Segway's New Way

University of South Carolina (USC) professor John Weidner and engineer Chuck Holland are owners of Hydrogen Hybrid Mobility (H2M), a start up firm. H2M modifies the standard battery-powered Segway personal transporter to run on a fuel cell that uses hydrogen stored in a canister. The fuel cell extends the Segway's range by several hours. One hydrogen canister increases the range by roughly a third, Weidner said. The company is part of the USC Technology Incubator, which has helped devise and refine a business plan. The first two Segways were acquired as part of the Greater Columbia Fuel Cell Challenge to demonstrate a relatively good, low-cost way of using fuel cells for transportation, Weidner said. The fuel cell and the hydrogen fuel canisters were purchased from California-based Jadoo Power Systems. Weidner and Holland integrated the two systems.

[H2M](http://www.thestate.com/business/story/261683.html): <http://www.thestate.com/business/story/261683.html>

22. H2scan Corp. Hydrogen Monitor Products Receive ATEX Safe Certification

H2scan Corp. recently announced that two of the company's new products, the HY-ALERTA 1600 Hydrogen Area Monitor and the HY-OPTIMA 1700 Hydrogen Process Monitor, have received the ATEX intrinsically safe certification. Both products are designed for use in hazardous locations up to and including zone 0 applications and have built-in displays and keypads available for user configuration, calibration and readings. The company's new HY-ALERTA and the HY-OPTIMA products have additional features like LCD displays that indicate real time measurement, and added pressure capability up to a minimum of 200PSIG compared to their predecessors, models 600 and 700.

[H2scan](http://www.h2scan.com/news_5.aspx): http://www.h2scan.com/news_5.aspx

23. NHA 2008 Held in Sacramento March 30-April 4

The NHA Annual Hydrogen Conference is the largest hydrogen conference in the U.S. and the longest running annual hydrogen conference in the world. More than 1,500 business professionals and expo visitors are expected to attend the 19th Annual Conference in Sacramento, CA, March 30 - April 4, 2008. This year's theme is "Ramping Up

Commercialization." As a result, a major focus of the Conference and Expo will be the challenges and opportunities in early markets, as well as ways to advance the commercial use of hydrogen products currently available in the marketplace.

[NHA 2008](http://www.hydrogenconference.org/content.asp?registration): <http://www.hydrogenconference.org/content.asp?registration>

24. 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.

[Clean Fleet Report](http://www.cleanfleetreport.com): <http://www.cleanfleetreport.com>

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

25. 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 - Larry Watkins; 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.

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Catherine Rips, Editor/Publisher

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