

CHBC News: February 2009

1. [Accessing Public Funds, CHBC General Meeting Feb 26](#)
2. [Terry Tamminen, Former CalEPA Secretary, Joins CHBC Board](#)
3. [US Lawmakers Debating Obama's Energy Tax Breaks](#)
4. [DOE Requests Stakeholder Input by Feb 6 on Hydrogen Storage Materials](#)
5. [CEC to Present Workshops on AB118 Investment Plan](#)
6. [Handed the Keys to An Alternative Future](#)
7. [Pierce Brosnan Arrives at Golden Globes in Hydrogen Style](#)
8. [Daimler has 'Measured Confidence' in Face of Crisis](#)
9. [Detroit Auto Show: GM says, 'We're a Freedom Company'](#)
10. [Coming Soon: Hydrogen and Electric Vehicles From Toyota](#)
11. [IAC Sunderland Offers Opportunity to See and Drive Nissan Hydrogen Car](#)
12. [NREL Publishes Update to SunLine Fuel Cell Bus Report](#)
13. [Jadoo Power Receives Military Contract for Aeromedical Rescue and Transport](#)
14. [Alteryg Ships 1.1 MW of Fuel Cell Systems in Q4 2008](#)
15. [FuelCell Energy Awarded \\$30.2M Contract for Clean Coal-Based Plant](#)
16. [World's Smallest Fuel Cell Promises Greener Gadgets](#)
17. [Hydrogen Production Method May Cut Emissions](#)
18. [Hydrogen Production Method Named One of Top Science Stories of 2008](#)
19. [Basin Electric Breaking New Ground with Minot Wind Project](#)
20. [NASA Tests Its Moon Landing Engine Technology](#)
21. [Canadian Hydrogen and Fuel Cell Association Begins Operations](#)
22. [Hydrogen Works: A Premier Professionals Training Course](#)
23. [Clean Heavy Duty Vehicle Conference & Expo Mar 16-18](#)
24. [Save the Dates!](#)
25. [Board of Directors - Send Us Your News](#)

1. Accessing Public Funds, CHBC General Meeting Feb 26

For many firms, 2009 will be all about survival. To help industry members through troubled times, CHBC in conjunction with NHA, will present a financial trifecta: a three-part series that focuses on accessing public and private funds. First on the agenda is our February 26 General Meeting on government funding and grant programs. Hosted by South Coast Air Quality Management District (AQMD), the meeting will feature existing programs and those in development. Speakers represent NREL; California Building, Transportation & Housing Agency; California Air Resources Board; California Energy Commission; AQMD; BAAQMD; MSRC and more. Presentations on the federal economic stimulus package and legislative opportunities at the state and national level round out this information-packed meeting. [CHBC: http://www.californiahydrogen.org/page.cfm?content=48](http://www.californiahydrogen.org/page.cfm?content=48)

2. Terry Tamminen, Former CalEPA Secretary, Joins CHBC Board

Terry Tamminen, author, lecturer and strategist on energy and the environment, has joined the Board of Directors of the California Hydrogen Business Council. The former CalEPA Secretary cites among his current projects continued work on the California Hydrogen Highway and work with the New America Foundation, a non-profit, post-partisan, think tank. He is also actively working with Gov. Arnold Schwarzenegger and his Climate Action Team, along with other governors, non-profits and foundations, to combat the growing

threat of climate change. Terry's latest book, "Lives Per Gallon: The True Cost of our Oil Addiction," examines our dependence on oil and offers a strategy to evolve to more sustainable energy solutions. He will kick off our February 26 meeting. Don't miss it!
[Terry Tamminen](http://www.terrytamminen.com): <http://www.terrytamminen.com>

3. US Lawmakers Debating Obama's Energy Tax Breaks

The U.S. House Ways and Means Committee has begun debating \$20 billion in energy tax credits and related financial incentives that are in the Obama administration's plan to revive the American economy. The legislation's energy tax breaks would benefit the wind and solar energy industries, encourage energy-efficiency improvements to existing homes and help service stations recoup their costs for installing alternative energy pumps. A tax credit would be increased for service stations that install pumps that dispense alternative energy fuels like hydrogen, natural gas and gasoline made from 85 percent ethanol. The 30 percent tax credit for hydrogen refueling pumps would not change, but the maximum amount of the credit would increase from \$30,000 to \$200,000.

[Tax Breaks](#):

<http://www.reuters.com/article/companyNewsAndPR/idUSN2237641420090122>

4. DOE Requests Stakeholder Input by Feb 6 on Hydrogen Storage Materials

The Dept. of Energy (DOE) Office of Energy Efficiency and Renewable Energy (EERE) Hydrogen, Fuel Cells and Infrastructure Technologies Program is seeking feedback from the research community and stakeholders to assist in the development of a possible Funding Opportunity Announcement (FOA) for new Center(s) of Excellence to conduct research and development of hydrogen storage materials.

[DOE](#):

<http://www.pr.doe.gov/iips/faopor.nsf/8373d2fc6d83b66685256452007963f5/c4cbf0af8b382bf98525753f0052c9ec?OpenDocument>

5. CEC to Present Workshops on AB118 Investment Plan

California Energy Commission staff will conduct a series of four workshops to present for public review and comment the draft Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program. Commissioners may also attend and participate. Workshops will be held on Tuesday, February 10, at the San Joaquin Valley Air Pollution District; on Wednesday, February 11, at the IBM Almaden Research Center in San Jose; on Tuesday, February 17, at the South Coast Air Quality Management District in Diamond Bar; and on Wednesday, February 18, at the Port of Los Angeles Administration Building, San Pedro, CA.

[Draft Plan](#): <http://www.energy.ca.gov/proceedings/2008-ALT-1/notices/index.html>

6. Handed the Keys to An Alternative Future

Karen Thorp drives 60 miles a day to and from her job as a senior deputy district attorney of Los Angeles County, where her specialty is prosecuting multiple-murder suspects and kidnappers. But in commuting from Newport Beach to Long Beach to keep her fellow citizens safe, she doesn't burn a single drop of gas. Her car is a Honda FCX Clarity fuel-cell sedan, and it runs on zero-emission hydrogen. In her first interview since taking delivery of the fourth Clarity in December, Ms. Thorp said she's "always been interested in alternative-fuel vehicles and concerned about global warming and helping to create a clean environment. As soon as I heard about the Clarity, I went on the Internet and signed up for the program."

[Honda](#): <http://wheels.blogs.nytimes.com/2009/01/21/handed-the-keys-to-an-alternative-future/>

7. Pierce Brosnan Arrives at Golden Globes in Hydrogen Style

Pierce Brosnan hit the red carpet at the 2009 Golden Globe Awards in his BMW Hydrogen 7. Who else was expected to arrive in eco-friendly style? Hilary Swank, Brad Pitt, Angelina Jolie, Will Ferrell, Jay Leno, Ed Norton, Cameron Diaz and Melissa Etheridge all participate in BMW's H7 lease program. At the Detroit Auto Show, BMW announced two hybrid concept vehicles will be ready for series production by the year's end. Ian Robertson, a member of BMW AG's board of management, stated that luxury and comfort of the 7 Series won't be compromised. "The BMW Hydrogen 7's wholly transparent transfer from gasoline to hydrogen fuel leads us to believe the ActiveHybrid will be just as smooth." The Hydrogen 7 was also recently showcased in Palm Springs, CA at a local wind farm.

[Hydrogen 7](http://www.ecorazzi.com/2009/01/09/pierce-brosnan-to-arrive-at-golden-globes-in-hydrogen-style/): <http://www.ecorazzi.com/2009/01/09/pierce-brosnan-to-arrive-at-golden-globes-in-hydrogen-style/>

[BMW Hybrids](http://www.examiner.com/x-572-Auto-Review-Examiner~y2009m1d15-Detroit-Auto-Show-BMW-announces-availability-of-hybrid-7Series-and-X6-in-2009): <http://www.examiner.com/x-572-Auto-Review-Examiner~y2009m1d15-Detroit-Auto-Show-BMW-announces-availability-of-hybrid-7Series-and-X6-in-2009>

8. Daimler has 'Measured Confidence' in Face of Crisis

The chief executive of German automaker Daimler AG expressed "measured confidence" for 2009 despite "enormous pressures" weighing upon the global automotive industry. Dieter Zetsche said there will be a "bright future for innovative car companies" which focus on green technology. Crisis is also another word for change," Zetsche told reporters. The focal point of Daimler's product strategy is green technology, and the automaker plans to introduce a new hybrid model every year. Daimler will also show its commitment to electric vehicles with the BlueZero prototype which can drive 200 kilometers on a lithium-ion battery. The automaker said it will also launch a limited number of fuel cell-powered vehicles in 2009 and electric vehicles in 2010.

[Daimler](http://www.google.com/hostednews/afp/article/ALeqM5g6LXXqsBP0FE0VDTwGbfvxnJspeA):

<http://www.google.com/hostednews/afp/article/ALeqM5g6LXXqsBP0FE0VDTwGbfvxnJspeA>

9. Detroit Auto Show: GM says, 'We're a Freedom Company'

In a wide-ranging chat with journalists at the Detroit Auto Show, GM's head of R&D and Strategic Planning Larry Burns talked about the future of transportation. He theorized pure electric vehicles would be "very small" city cars, with perhaps a 120-mile range on a single charge. Extended-range electric cars would be compact cars, capable of more range and, thanks to the drivetrain, of carrying somewhat larger loads. Fuel-cell vehicles would be larger, "family" vehicles, such as SUVs and the like. He suggested that hydrogen is the fuel of the future and pointed to hydrogen as the energy storage unit of the future and that government assistance is key. Burns said that the federal government should get in on the act and not only help develop new technology but work with the private sector to bring the technology to dealerships.

[GM](http://latimesblogs.latimes.com/uptospeed/2009/01/naias-burns-gm.html): <http://latimesblogs.latimes.com/uptospeed/2009/01/naias-burns-gm.html>

10. Coming Soon: Hydrogen and Electric Vehicles From Toyota

Toyota plans to begin selling a hydrogen-powered car in 2015, and a two-seater electric vehicle in 2012, the company announced recently at the North American International Auto Show. Toyota's announcements came a day after it said it would introduce a plug-in hybrid-electric vehicle late this year, a year ahead of schedule. Masatami Takimoto, a Toyota executive vice president and board member, disclosed the company's hydrogen plans in an interview at the show. "By 2015, we will have a full-fledged commercialization effort," Mr. Takimoto said. Toyota is testing a hydrogen version of the Highlander, a crossover vehicle that is available with a hybrid-electric powertrain. The Highlander, also known as the FCHV, for fuel cell hydrogen vehicle, is on display at the Detroit show.

[Toyota](http://greeninc.blogs.nytimes.com/2009/01/12/coming-soon-hydrogen-and-electric-vehicles-from-toyota/#more-847): <http://greeninc.blogs.nytimes.com/2009/01/12/coming-soon-hydrogen-and-electric-vehicles-from-toyota/#more-847>

11. IAC Sunderland Offers Opportunity to See and Drive Nissan Hydrogen Car

Attendees to the International Automotive Conference (IAC) Sunderland -- the UK's leading professional automotive conference, taking place February 10-12, 2009 -- will have the opportunity to test the hydrogen-powered Nissan Almera. With growing pressure to improve the environmental credentials of the next generation of cars, delegates can experience this new technology first hand at the conference. Just last year, the standard powered Nissan Almera was converted to run on hydrogen by a team of scientists from the Institute of Automotive and Manufacturing Advanced Practice at the University of Sunderland. In what the team believe is a significant step towards creating a mass-produced green machine, the HyPower Nissan Almera only emits water from its exhaust.

[Nissan](http://www.mhwmagazine.co.uk/index.asp?show=newsArticle&id=6186&country=): <http://www.mhwmagazine.co.uk/index.asp?show=newsArticle&id=6186&country=>

12. NREL Publishes Update to SunLine Fuel Cell Bus Report

The National Renewable Energy Laboratory (NREL) has recently published a fourth report on its evaluation of a fuel cell bus in service at SunLine Transit Agency in Thousand Palms, CA. This report provides an update to the previous reports and includes results from April 2008 through October 2008. Focused on performance results for SunLine's prototype fuel cell bus since the installation of a new fuel cell power system, this version incorporates lessons learned from the early phase of the demonstration. Data are included from five new CNG buses operating from the same bus depot as a baseline comparison. During this seven-month data collection period, SunLine operated the fuel cell bus over 11,000 miles in service with an overall fuel economy of 7.2 miles per kg.

[NREL Report](http://www.nrel.gov/hydrogen/pdfs/44646-1.pdf): <http://www.nrel.gov/hydrogen/pdfs/44646-1.pdf>

13. Jadoo Power Receives Military Contract for Aeromedical Rescue and Transport

The U.S. Dept. of Defense awarded Jadoo Power a contract to produce an aeromedical rescue and transport power system. The power system uses fuel cell technology to drive the emergency medical equipment onboard a military evacuation and transport aircraft to maximize rescue efficiency and minimize risk to soldiers. The award accelerates the development of the 100 Watt Portable Electric Power Supply for Aeromedical Evacuation, also known as the PEPSAE. Jadoo Power received an award in early 2008 and produced the initial PEPSAE prototype based on specifications for a 400 Watt power system. The new PEPSAE is a small, lightweight and low profile hybrid fuel cell power engine that could mount directly on a transport stretcher along with the critical portable medical equipment.

[Jadoo](http://www.jadoodpower.com/): <http://www.jadoodpower.com/>

14. Alteryg Ships 1.1 MW of Fuel Cell Systems in Q4 2008

In an interview with Fuel Cell Today, Alteryg Systems revealed that the firm shipped 1.1 MW of PEM uninterruptible power systems (UPS), mainly to the telecoms industry, in the fourth quarter of 2008. This represents one of the largest shipments of PEM units to date in a single three-month period. Senior Vice President of Business Development Mickey Oros stated Alteryg was able to ship an aggregate of 1.1 MW of fuel cell units, composed of 5 kW, 10 kW and 15 kW UPS units while working a single staggered shift at its automated Folsom production facility. The principal customer for these units is the telecoms sector. Alteryg has been working with Eaton Corp. on installation and service of the units. Alteryg also has in place a collaboration with Enersys, one of the world's largest battery corporations.

[Alteryg](http://www.fuelcelltoday.com/online/news/articles/2009-01/Alteryg-Ships-1-1MW-in-Q4-2008): <http://www.fuelcelltoday.com/online/news/articles/2009-01/Alteryg-Ships-1-1MW-in-Q4-2008>

15. FuelCell Energy Awarded \$30.2M Contract for Clean Coal-Based Plant

FuelCell Energy, Inc. announced it has been awarded a contract for Phase II of the U.S. Dept. of Energy's Office of Fossil Energy Solid State Energy Conversion Alliance (SECA) Coal-Based Systems Cooperative Agreement. The total program cost is \$30.2 million of which \$21 million will be funded by DOE. Phase II extends from January 2009 through September 2010 and seeks to build a minimum 25 kilowatt (kW) solid oxide fuel cell (SOFC) stack that meets SECA-targeted requirements for performance and manufacturing cost. The new stack is to be integrated with a 250 kW to 1 megawatt (MW) fuel cell power module and a 5 MW proof-of-concept system that will operate on coal-based syngas (fuel created by reacting coal at high temperatures).

[FuelCell Energy](http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=358904): <http://fcel.client.shareholder.com/releasedetail.cfm?ReleaseID=358904>

16. World's Smallest Fuel Cell Promises Greener Gadgets

The world's smallest working fuel cell has been created by U.S. chemical engineers, at just 3 millimetres across. Future versions of the tiny hydrogen-fuelled power pack could replace batteries in portable gadgets. While batteries are used today, fuel cells are able to store more energy in the same space. Even the most advanced batteries have an energy density an order of magnitude smaller than that of a hydrogen fuel tank. Saeed Moghaddam at the University of Illinois at Urbana-Champaign, along with a team of Illinois colleagues, has come up with a design for a tiny fuel cell with four components: a thin membrane, water reservoir, metal hydrides and an assembly of electrodes.

[Smallest FC](http://www.newscientist.com/article/dn16370-worlds-smallest-fuel-cell-promises-greener-gadgets.html): <http://www.newscientist.com/article/dn16370-worlds-smallest-fuel-cell-promises-greener-gadgets.html>

17. Hydrogen Production Method May Cut Emissions

Scientists have created a method of producing hydrogen that could drastically reduce the use of fossil fuels in generating electricity. The breakthrough converts ethanol created from the fermentation of crops into hydrogen and carbon dioxide. This hydrogen can then power fuel cells, devices that directly convert fuels into electricity without the need for combustion. The new method -- which has the potential to be used to power homes, buildings and cars -- is the result of a 10-year collaboration between scientists from the University of Aberdeen and international partner laboratories. Because ethanol is produced by the fermentation of crops, any carbon dioxide produced is assimilated back into the environment and helps plants grow.

[Production](http://www.laboratorytalk.com/news/uno/uno101.html): <http://www.laboratorytalk.com/news/uno/uno101.html>

18. Hydrogen Production Method Named One of Top Science Stories of 2008

There was new encouragement in searching for ways to make hydrogen a practical fuel. Chemists have used electricity to split water into hydrogen and oxygen for two centuries. But the catalysts (such as platinum) used to facilitate the process are too costly and require conditions too specialized for large scale use. Last year, a Massachusetts Institute of Technology team reported successful use of a catalyst based on relatively cheap and abundant cobalt that works under relatively easily maintained conditions. There's a long way to go from this lab demonstration to an industry that uses sunlight-generated electricity to produce hydrogen fuel. But, as a commentary in Science magazine pointed out, with the route to a practical catalyst now open, experts expect progress can be swift.

[Top Stories](http://features.csmonitor.com/innovation/2009/01/07/the-top-science-stories-of-2008/): <http://features.csmonitor.com/innovation/2009/01/07/the-top-science-stories-of-2008/>

19. Basin Electric Breaking New Ground with Minot Wind Project

Two Basin Electric Power Cooperative projects near Minot, ND, are expanding the traditional boundaries of wind farms. Basin Electric has announced plans to build the largest wind

project in the U.S. owned and operated by a cooperative. For the last three years Basin Electric and two of its member cooperatives have been involved in an experimental wind-to-hydrogen project in the Minot area, which converts energy from wind turbines into fuel for hydrogen-powered vehicles. "The wind-to-hydrogen project is a way of capturing and using wind and hydrogen in a different way," said spokesman Daryl Hill. "The question is, 'How can we produce and use hydrogen?' One way is as a transportation fuel. We have three trucks that can run on hydrogen. Another option is to use hydrogen as a fuel to run backup generation for wind."

[Wind](http://www.prairiebizmag.com/articles/index.cfm?id=9569§ion=News): <http://www.prairiebizmag.com/articles/index.cfm?id=9569§ion=News>

20. NASA Tests Its Moon Landing Engine Technology

NASA managed recently to complete its third successful testing of a new engine that was designed to allow the agency to send astronauts to the moon again. The new engine has to be able to lift the future buggy, which will undoubtedly be heavier than its predecessors. New models are already in testing, and rumor has it that they will be enclosed, so as to spare astronauts the inconvenience of having to wear bulky spacesuits while conducting rigorous scientific experiments. The engine is fueled by liquid hydrogen and liquid oxygen, which are cooled at sub-zero temperature. The output they generate is sufficient for breaking the moon's gravitational pull, NASA representatives say. The Pratt & Whitney Rocketdyne RL10 upper stage rocket engine was the base for the new design, and its third successful test fire proved that the team working on the project had successfully solved some of the issues that arose during the last two tests.

[NASA](http://news.softpedia.com/news/NASA-Tests-Its-Moon-Landing-Engine-Technology-102052.shtml): <http://news.softpedia.com/news/NASA-Tests-Its-Moon-Landing-Engine-Technology-102052.shtml>

21. Canadian Hydrogen and Fuel Cell Association Begins Operations

The Canadian Hydrogen and Fuel Cell Association (CHFCA), a new national association for Canada's hydrogen and fuel cell sector, begins its operations following the successful merger of the Canadian Hydrogen Association (CHA) and Hydrogen & Fuel Cells Canada (H2FCC). With offices in Vancouver, Ottawa and Montreal, the CHFCA will expand the previous efforts of the CHA and H2FCC in championing the sector while providing a greater set of benefits to its members. The merger follows successful negotiations and unanimous approval by the respective Boards of Directors' of the CHA and H2FCC. John Tak, former President and CEO of H2FCC, has been appointed President and CEO of the CHFCA. Terry Kimmel, former President and CEO of the CHA, will assume the role of CHFCA's Vice President.

[CHFCA](http://www.marketwire.com/press-release/Canadian-Hydrogen-And-Fuel-Cell-Association-935076.html): <http://www.marketwire.com/press-release/Canadian-Hydrogen-And-Fuel-Cell-Association-935076.html>

22. Hydrogen Works: A Premier Professionals Training Course

The Hydrogen Works Training Course, set for February 17-19, 2009, in San Diego, CA, is an opportunity to gain expert insight on the emerging hydrogen economy. Leading hydrogen professionals will present a comprehensive overview of the hydrogen industry including production, storage, distribution infrastructure, fuel cells, and environmental impacts. This event is organized and sponsored by the University of North Dakota's Energy & Environmental Research Center's National Center for Hydrogen Technology. For more information, contact LaRae Foerster, event coordinator at (701) 777-5246 or

lfoerster@undeerc.org.

[Safety Workshop](http://www.undeerc.org/h2works/): <http://www.undeerc.org/h2works/>

23. Clean Heavy Duty Vehicle Conference & Expo Mar 16-18

March 16-18, the Clean Heavy Duty Vehicle Conference & Expo will be held at the Hyatt

Regency Long Beach and Long Beach Convention Center. CHBC is a support sponsor of this annual CalStart event. Sessions will be held on clean fuel alternatives to higher priced conventional fuels, advancements in clean technologies for efficiency and lower emissions, California policy trends affecting industry and fleets, OEM plans for 2010 and beyond, and vehicle energy storage advancements. For more information about the conference, contact Betsey Brown, 626-744-5632, or bbrown@calstart.org.

Heavy Duty: <http://guest.cvent.com/EVENTS/Info/Summary.aspx?e=cc1f32e5-4db1-4c73-9a6a-8f959a08dff8>

24. Save the Dates!

CHBC will hold four General Meetings in 2009. The first, Accessing Public Funding, will be held February 26 at AQMD in Diamond Bar. The second full day of finding funds will focus on private investment and will likely be held in Northern CA. Tentatively scheduled for May 19, the meeting date is currently scheduled to precede our third annual Legislative Outreach Day in Sacramento. Details to be announced as soon as they are finalized. Additional General Meeting dates are September 17 and December 10, locations to be announced. We hope to see you at all of these events!

25. Board of Directors - Send Us Your News

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 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, Debbie Smith and Larry Watkins. Ex-officio Government Liaisons - Analisa Bevan and Gerhard Atchelik. To send news or contact the board, please email: info@californiahydrogen.org.

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Catherine Rips, Editor/Publisher

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