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### 1. Welcome New Members

CHBC is pleased to announce its first Platinum member: South Coast Air Quality Management District. We greatly appreciate your support! Additionally, we extend a warm welcome to our newest member, Tod Kaneko, Mazda USA.

[AQMD](http://www.aqmd.gov): <http://www.aqmd.gov>

### 2. New Beginnings June 18 a Must Attend Meeting!

On June 18, the California Hydrogen Business Council will come together with leading industry groups to discuss what resonates in Washington and Sacramento, with the business community, environmentalists and the media. Participants include Cal-Start, California Fuel Cell Partnership, National Fuel Cell Research Center, National Hydrogen Association and the U.S. Fuel Cell Council. A level-setting panel will provide real world input on hydrogen cars, buses, supply and infrastructure and assess how hydrogen measures up. Then we'll look at the world tomorrow and how hydrogen helps get us there. Before the day is through, attendees will be armed to become Hydrogen Ambassadors and learn how to nurture broad based support. Takeaways will include specific messages for key stakeholders and an industry To Do list.

[June 18](http://www.californiahydrogen.org/page.cfm?content=48): <http://www.californiahydrogen.org/page.cfm?content=48>

### 3. Mandatory June 3 Briefing for AQMD Hydrogen Station Proposers

On May 1, South Coast Air Quality Management District released Request for Proposals #P2009-20, "AQMD Hydrogen Fueling Station." All those interested in submitting a proposal are required to participate in a job walk and briefing Wednesday, June 3 at 10 a.m. at

AQMD's Diamond Bar offices. Participation in the Bidder's Conference is mandatory and will assist AQMD in notifying potential bidders of any updates or amendments. The Bidder's Conference will be held in Room CC-6. Please contact Larry Watkins at (909) 396-3246 if you plan to attend.

[AQMD](http://www.aqmd.gov): <http://www.aqmd.gov>

#### **4. CHBC Members Invited to Apply to Green Tech Connect Forum by June 5**

The Green Tech Connect Forum, presented on August 3-4 in Pasadena by the South Coast Air Quality Management District, creates a forum to link emerging green technology developers, government and the investment community. The emerging green technology developers will be profiling their companies, technologies and funding needs to prospective funding partners instead of the investment community talking to an audience of technology developers. It will also include one-on-one opportunities to interface directly with the funding partners. CHBC members are invited to apply as speaker candidates. All Technology Partners will be chosen through a screening application process. If you think your technology and funding needs fits within the scope of the Green Tech Connect Forum, please complete the screening application no later than June 5, 2009.

[Speaker Application](http://www.greentechconnectforum.com/#8): <http://www.greentechconnectforum.com/#8>

[Green Tech Forum](http://www.greentechconnectforum.com/): <http://www.greentechconnectforum.com/>

#### **5. 2009 Hydrogen Road Tour Now Underway**

The 2009 Hydrogen Road Tour, an annual road rally to demonstrate advancements in fuel-cell technology, is currently underway. The event began May 26 in San Diego, and ends June 3 in Vancouver, BC. Organized by the California Air Resources Board (ARB), California Fuel Cell Partnership, National Hydrogen Association, and U.S. Fuel Cell Council, the tour will travel more than 1,700 miles and have 28 stops. The public is invited to test drive vehicles and experience firsthand their range, performance and road readiness. "Fuel cell technology is on the verge of becoming a practical alternative to burning gasoline," said ARB Chairman Mary D. Nichols. "This year's road tour demonstrates how far the industry has come and how near we are to putting these cars in the public's hands."

[Road Tour](http://www.hydrogenroadtour.com/): <http://www.hydrogenroadtour.com/>

[ARB Announcement](http://www.arb.ca.gov/newsrel/nr052109.htm): <http://www.arb.ca.gov/newsrel/nr052109.htm>

#### **6. The Energy Evolution: An Analysis of Alternative Vehicles and Fuels to 2100**

The National Hydrogen Association has released a new report called the "Energy Evolution: An Analysis of Alternative Vehicles and Fuels to 2100." The report shows that a scenario which initially includes a mix of alternative vehicles, and is later dominated by hydrogen fuel cell electric vehicles sales, is the only way to simultaneously cut U.S. greenhouse gas pollution by 80 percent below 1990 levels, reach petroleum quasi-independence by mid-century and eliminate nearly all controllable air pollution by the end of the century. The report also shows that an expansion of hydrogen stations is more affordable than most people think. In all, 15 of the most promising fuel and vehicle alternatives are compared over a 100-year period using data and models to create various scenarios.

[Energy Evolution](http://www.hydrogenassociation.org/general/evolution.asp): <http://www.hydrogenassociation.org/general/evolution.asp>

#### **7. Hydrogen and Fuel Cell Associations Criticize DOE Program Cuts**

The National Hydrogen Association and U.S. Fuel Cell Council issued a joint statement regarding the Obama Administration's FY 2010 budget request for the U.S Dept. of Energy. "The cuts proposed in the DOE hydrogen and fuel cell program threaten to disrupt commercialization of a family of technologies that are showing exceptional promise and beginning to gain market traction. Fuel cell vehicles are not a science experiment. These are real vehicles with real marketability and real benefits. Hundreds of fuel cell vehicles have collectively logged millions of miles. Both the National Academy of Sciences and NHA's

recent Energy Evolution report conclude that a portfolio of vehicle technologies is needed to achieve the nation's energy and environmental security goals and that hydrogen is essential to success."

[Program Cuts](http://www.californiahydrogen.org/page.cfm?content=20&display=107): <http://www.californiahydrogen.org/page.cfm?content=20&display=107>

### **8. Honda, GM Stick to Fuel-Cell Plans**

Honda, General Motors and Toyota Motor Corp. say they'll continue developing hydrogen-powered autos despite the Obama administration's planned gutting of fuel-cell funding in favor of biofuels and batteries. U.S. Dept. of Energy funding for hydrogen-related projects would be cut by 60 percent to \$68.2 million next fiscal year under the President's recently presented budget. "Honda has a significant commitment to fuel cells and we're going to pursue it," said Ed Cohen, vice president of U.S. government and industry. Dan Sperling, director of the Institute of Transportation Studies at U.C. Davis and a member of the state's Air Resources Board, said "The policy shift is very disappointing. It's unclear how we're going to get big reductions in greenhouse gas emissions without hydrogen."

[Honda-GM](http://www.bloomberg.com/apps/news?pid=20601103&sid=abc.hrgl1DPQ&refer=us):

<http://www.bloomberg.com/apps/news?pid=20601103&sid=abc.hrgl1DPQ&refer=us>

### **9. AC Transit Undeterred by Fuel Cell Cuts**

At AC Transit, which runs a pioneering pilot fuel cell bus program, Director of Marketing and Alternative Fuels Policy Jaimie Levin said he was "highly disappointed" by the government's decision to cut funding for fuel cell research next year by \$100 million. But it's not going to stop their program, added Levin, "We've made too much progress to not proceed with what we're doing," Levin said. The project began in 2006, and results show the fuel cell buses operate reliably, seven days a week. The buses are far more energy efficient than diesel-based buses, emit no pollutants, and are popular with riders for their smooth, quiet ride, he said. AC Transit serves Alameda and Contra Costa counties.

[Bay Area](http://www.mercurynews.com/breakingnews/ci_12380547?nclick_check=1): [http://www.mercurynews.com/breakingnews/ci\\_12380547?nclick\\_check=1](http://www.mercurynews.com/breakingnews/ci_12380547?nclick_check=1)

### **10. Honda Delivers FCX Clarity to Environmental Youth Leader Q'orianka Kilcher**

American Honda Motor Co., Inc., announced that actress and environmental youth leader Q'orianka Kilcher took delivery of an FCX Clarity hydrogen-powered fuel cell vehicle on May 7 at Honda of Santa Monica. Kilcher completed a two-year lease term as one of the original FCX customers. "Since my first car was the Honda FCX, I am proud to say that I have never pumped a gallon of gasoline," said Kilcher. "As a young person, I feel it is my responsibility to always try my best to think about the consequences of my actions and choices as a consumer, and the impact they have on our planet." Kilcher, winner of numerous environmental youth awards, is the world's youngest FCX Clarity customer at 19 years old. The zero-emissions vehicle can be refueled at a Shell hydrogen station in West Los Angeles.

[Honda](http://hondanews.com/categories/1097/releases/5004): <http://hondanews.com/categories/1097/releases/5004>

### **11. Toyota May Speed Up Hydrogen Car**

Toyota said in January it would begin selling a fuel-cell car by 2015, but economic imperatives of California's Zero Emission Vehicle (ZEV) mandate may move that timetable up to late 2014. John Hanson, a Toyota spokesman, said, "We're shooting for 2015, but it could happen sooner than that. So much of what happens is directly related to the California ZEV mandates, they're followed by at least 14 states, and they affect nearly half of the cars on the market in the United States. Phase IV of the mandates covers model years 2015 through 2017, so that means we could begin complying in late 2014." Fuel-cell credits under the ZEV program are worth more than plug-in hybrid credits. It's simple arithmetic, he said, and it could put a Toyota fuel-cell car on the road ahead of the previously announced schedule.

[Toyota](http://wheels.blogs.nytimes.com/2009/05/12/toyota-may-speed-up-hydrogen-car/): <http://wheels.blogs.nytimes.com/2009/05/12/toyota-may-speed-up-hydrogen-car/>

## **12. GM/Opel HydroGen4 Fuel-Cell SUV Continues Real World Testing Program**

The U.S. is not the only place where fuel cell SUVs from General Motors are being driven -- 10 Opel HydroGen4 SUVs have also been out testing as the European portion of GM's Project Driveway since December 2008. In the U.S., Project Driveway supplied fuel cell-equipped Chevy Equinox SUVs for real-world testing in a large-scale market test. The Opel HydroGen4 is essentially the Equinox FCV rebranded as an Opel. The 10 HydroGen4 FCVs have achieved more than 680,000 miles of service and have been refueled more than 7,400 times at hydrogen fueling stations. The HydroGen4 vehicles were placed in Berlin, and currently eight are in use with daily drivers.

[GM:](#)

[http://www.trucktrend.com/features/news/2009/163\\_news090515\\_gm\\_opel\\_hydrogen4\\_fuel\\_cell\\_suv\\_continues\\_testing/index.html](http://www.trucktrend.com/features/news/2009/163_news090515_gm_opel_hydrogen4_fuel_cell_suv_continues_testing/index.html)

## **13. Mazda Delivers First Premacy Hydrogen RE Hybrid to Iwatani Corp.**

Mazda Motor Corp. recently delivered the first Mazda Premacy Hydrogen RE Hybrid to Iwatani Corp., an energy development company based in Japan. The Premacy Hydrogen RE Hybrid is Mazda's latest hydrogen rotary engine (RE) vehicle which uses hydrogen as a fuel and features a unique hybrid system. The Mazda Premacy Hydrogen RE Hybrid can run on both hydrogen and gasoline, thanks to a dual-fuel system that was developed for the current RX-8 Hydrogen RE. The addition of the new hybrid system significantly enhances the vehicle's performance and contributes to its increased hydrogen fuel range of 200 kilometers; double that of the RX-8 Hydrogen RE. The Premacy Hydrogen RE Hybrid is the second hydrogen rotary engine vehicle to be leased to Iwatani Corp.

[Mazda:](#) [http://www.japancorp.net/Article.Asp?Art\\_ID=21523](http://www.japancorp.net/Article.Asp?Art_ID=21523)

## **14. Hydrogen Powered Street Sweeper Being Tested In Switzerland**

Empa and the Paul Scherrer Institute (PSI) have together with Bucher Schoerling, Proton Motor, BRUSA Elektronik AG und Messer Schweiz, developed a hydrogen powered municipal street cleaning vehicle recently presented to the public in Basel, Switzerland. The vehicle is named the "Bucher CityCat H2" and is the first municipal utility vehicle in the world powered by fuel cell technology. For the next 18 months it will be tested in everyday usage. Because of their low power operational cycles, street sweepers are particularly well-suited for these kinds of drives and can be used to good effect in areas where the refueling infrastructure is limited. "They therefore offer an important window of opportunity for introducing other hydrogen powered vehicles onto the market," according to Empa's Christian Bach.

[Street Sweeper:](#) <http://www.sciencedaily.com/releases/2009/05/090518103335.htm>

## **15. Hydrogenics Announces Commissioning of Fuel Cell Buses in Europe**

Hydrogenics Corp. recently announced that two additional Hydrogenics' fuel cell powered hybrid MidiBuses have now been put into operation. The buses were purchased by Vestische Strassenbahnen GmbH, a regional urban transit authority located in Herten, Germany. There are now 10 Hydrogenics powered MidiBuses in operation in Europe based on a Tecnobus S.p.A electric bus platform. In addition, Hydrogenics has marked significant progress with its Rampini fuel cell bus project, now planned to be commissioned this month in Gladbeck, Germany. The bus, developed on the Rampini ZEV platform of Italy, is approximately double the size of the MidiBus and can hold over 40 passengers. Additional models are expected to be ready for procurement after appropriate testing is complete.

[Hydrogenics:](#) [http://www.hydrogenics.com/ir\\_newsdetail.asp?RELEASEID=381743](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=381743)

## **16. First Solar-Powered Hydrogen Plant in AF Complete on Hickam**

A \$1.1 million solar array project to power the Hickam Air Force Base hydrogen production and fueling station was completed on May 8, marking a first for both the U.S. Air Force and the state of Hawaii. After about six weeks of installation, 810 solar modules can now

produce 146 kilowatts of energy, equivalent to what it would take to power about 30 standard homes, which is enough to handle the maximum power demand of the hydrogen plant. The \$1.5 million hydrogen station was completed in November 2006; however, the fact that the hydrogen plant is now solar-powered means Hickam's hydrogen is a renewable fuel. This combination of solar panels with the hydrogen plant is what makes the project a dynamic, first-in-the-Air Force and first-in-Hawaii combination.

[Hickam Station](http://www.pacaf.af.mil/news/story.asp?id=123150261): <http://www.pacaf.af.mil/news/story.asp?id=123150261>

### **17. Fuel Cell Car Rally Opens Norway's Hydrogen Highway**

Norway opened its 350-mile hydrogen highway in May with more than a dozen hydrogen-powered cars rallying along a scenic route between capital city Oslo and North Sea oil hub Stavanger. Norwegian oil and gas producer StatoilHydro has built several hydrogen filling stations between the two cities to fuel cars with fuel-cells or that burn hydrogen in a combustion engine. In the longer-term, Statoil may link the road to a hydrogen autobahn in northern Germany. "We have to look for additional sources of fuel for the future and we believe hydrogen is a good option, especially as it has the characteristics of a zero-emission fuel and ... you could produce hydrogen from many sources," said Ulf Hafselid, head of hydrogen business development at StatoilHydro.

[Norway](http://uk.reuters.com/article/environmentNews/idUKTRE54A42Z20090511): <http://uk.reuters.com/article/environmentNews/idUKTRE54A42Z20090511>

### **18. Linde Develops Sustainable Hydrogen Production Process**

The Linde Group has developed a process for sustainable production of hydrogen from biogenic raw materials. Hydromotive GmbH, a subsidiary of The Linde Group, will build a demonstration plant in mid-2009 at its chemical site in Leuna, Germany, which will produce hydrogen from glycerine. The feedstock glycerine is a by-product of biodiesel production and further processing of glycerine would be profitable. The plant, which will reprocess, pyrolyse and reform raw glycerine and will go onstream in mid-2010, will produce a hydrogen-rich gas, which will be fed into the existing Leuna II hydrogen plant for the purification and liquefaction of the hydrogen. The green liquefied hydrogen produced there will initially be used in German centers where hydrogen is being employed as a fuel.

[Linde](http://news.alibaba.com/article/detail/chemical/100107380-1-linde-develops-sustainable-hydrogen-production.html): <http://news.alibaba.com/article/detail/chemical/100107380-1-linde-develops-sustainable-hydrogen-production.html>

### **19. Air Liquide to Lead Hydrogen-Powered Project at Montreal Airport**

Air Liquide is to lead a \$14M project to supply a range of hydrogen energy and fuel cell technologies, as well as a hydrogen fueling station at the Montreal's Pierre Elliott Trudeau International Airport. The Montreal project is a collaboration between Air Liquide Canada, Natural Resources Canada and Quebec's Agence de l'efficacit' energetique, together with the involvement of 14 other companies. Air Liquide will provide both the hydrogen for the project and install a station capable of refueling several vehicles at the same time, also capable of refilling portable hydrogen tanks. The two buses and nine other vehicles converted to hydrogen will not emit any pollutants or greenhouse gases.

[Montreal Airport](http://www.gasworld.com/news.php?a=3806): <http://www.gasworld.com/news.php?a=3806>

### **20. Ballard Announces Sale of FC Distributed Power Solution to FirstEnergy**

Ballard Power Systems announced it has signed a supply agreement with FirstEnergy Corp. to deliver a one megawatt distributed power generation solution for use in a utility load management demonstration project. The project is designed to test the unit's application for providing peaking capacity and load management over a three-year period. Initial plans call for the trailer-mounted unit to be delivered in December 2009 and located in Ohio. Ballard's proven heavy-duty proton exchange membrane based FCvelocity(TM) products, which power bus fleets around the world, will be leveraged for this application. The demonstration project will provide valuable information about utility scale fuel cell technologies and their

potential to provide cost-effective solutions for peak demand and load management.

[Ballard](http://phx.corporate-ir.net/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1285370&highlight=): <http://phx.corporate-ir.net/phoenix.zhtml?c=76046&p=irol-newsArticle&ID=1285370&highlight=>

### **21. Work Starts on Native American Eco-Tourism Resort in SoCal**

The Ramona Band of the Cahuilla Indian Tribe has started work on its 100 percent off-grid renewable energy eco-tourism resort in Anza, CA. The project, funded jointly by the Ramona Band, the U.S. Dept. of Energy, the U.S. Dept. of Agriculture and other federal agencies, will employ multiple alternative energy technologies to meet all of its energy needs and recycle much of its own waste byproducts, such as sewage, biogas, and restaurant food waste. Energix Research, Inc., will provide several integrated hydrogen generator/fuel cell devices. The hydrogen will power the fuel cell micro power plants with 5KW capacity of continuous power at 52 percent efficiency (compared to 21-24 percent with standard diesel generators).

[Eco-Tourism](#):

[http://www.hdmag.com/hospitalitydesign/search/article\\_display.jsp?vnu\\_content\\_id=1003969563](http://www.hdmag.com/hospitalitydesign/search/article_display.jsp?vnu_content_id=1003969563)

### **22. QuantumSphere Delivers on Key NSF Hydrogen Grant Milestones**

QuantumSphere, Inc. (QSI), is working under a National Science Foundation grant for designing, fabricating and testing a Compact Hydrogen Membrane Reformer system, to produce high-purity hydrogen from commonly available fuels like natural gas, gasoline and diesel, for use in hydrogen fuel cell electric vehicles. Once completely engineered, the compact reformer promises high-purity hydrogen with fast start-up times and good transient response to load. QSI has improved process design for the CPOX process, leading to reaction efficiencies of up to 92% of theoretical numbers at atmospheric pressure and greater than 70% efficiencies at 100 psi. This catalyst is the key to making a viable, compact and efficient hydrogen production system that is an improvement over existing SMR technology.

[QSI](#): [http://www.qsinano.com/news/newsletters/2009\\_05/f1.php](http://www.qsinano.com/news/newsletters/2009_05/f1.php)

### **23. Hydrogen Advocate Amory Lovins Wins 2009 National Design Award Honors**

The Rocky Mountain Institute's Chief Scientist and longtime hydrogen advocate Amory Lovins has been honored with a 2009 National Design Award. The Design Mind Award recognizes visionary individuals that have affected a shift in design thinking or practice through writing, research and scholarship. Also, according to TIME magazine, "Amory Lovins had the solution to the energy problem in 1976. It's taken the rest of us 33 years to catch up." It is Amory's visionary approach and thought leadership that have landed him on The 2009 TIME 100, a list of the 100 people who most affect our world.

[Design Awards](#):

<http://designtaxi.com/news.jsp?id=26764&monthview=1&month=5&year=2009>

[Amory Lovins](#): <http://www.rmi.org/>

### **24. NHA Job Board Now Allied with ESCN**

The National Hydrogen Association is now a partner in the Engineering and Science Career Network (ESCN). An alliance of online job sites from more than 20 top trade and professional associations in the engineering and scientific industries, ESCN puts the jobs posted by industry members on the Hydrogen and Fuel Cell Job Board in front of thousands of candidates experienced in energy and infrastructure industries.

[Job Board](#): <http://www.hydrogenassociation.org/jobs/>

### **25. Send Us Your News; Board of Directors**

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, Debbi 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](mailto:info@californiahydrogen.org).

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Catherine Rips, Editor/Publisher

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