

## CHBC News: December 2005

1. [Welcome New Members](#)
2. [NHA Conference March 12-16, 2006](#)
3. [Video Volunteer Sought](#)
4. [BP Invests \\$8 Billion in Alternative Energy](#)
5. [Hydrogenics Targets End Users with New HyPM Products](#)
6. [Honda's Home Energy Station III](#)
7. [Mazda will Ship HHICE Rotary in 2008](#)
8. [Intelligent Energy's Env Bike Earns Dual Award for the ENV Bike](#)
9. [Los Angeles Airport Hydrogen-Fueled Demonstration Vehicle](#)
10. [GTI to Develop Hydrogen Fueling Station Technology for Texas](#)
11. [Faster Freight - Cleaner Air 2006](#)
12. [Integrating Hydrogen into the ICTC](#)
13. [Free 2005 Fuel Cell Industry Survey from PricewaterhouseCoopers](#)
14. [Toyota Worldwide Hybrid Sales Top 500,000](#)
15. [Department of Transportation's New Hydrogen Roadmap](#)
16. [Argonne National Laboratory Forecasts 5.7 Quads Demand for Hydrogen](#)
17. [Green Coast Foundation](#)
18. [India's First Hydrogen Fueling Station Opened by Air Products](#)
19. [India's Hydrogen Roadmap: 1M Hydrogen Vehicles and 1,000 MW Hydrogen Power by 2020](#)
20. [Future CHBC Meeting Dates - Save These Dates](#)
21. [CHBC Gold and Silver Members](#)
22. [2005 CHBC Board of Directors](#)
23. [Join the CHBC](#)
24. [Send Us Your News!](#)

### **1. Welcome New Members**

CHBC welcomes its first Gold Member: Hydrogenics Corp. Along with the new Gold Membership, Hydrogenics will retain its sponsorship of the CHBC website for 2006. We appreciate your support!

<http://www.hydrogenics.com>

### **2. NHA Conference March 12-16, 2006**

NHA's Annual Hydrogen Conference 2006 will be held March 12-16, in Long Beach, CA. CHBC is an Endorsing Sponsor of the event, which is expected to draw over 1,000 attendees and hundreds of exhibitors. Highlights include technical workshops on industry issues, high-level international keynote speakers, and a "Ride 'n' Drive" event featuring hydrogen ICE and fuel cell vehicles from a variety of manufacturers.

<http://www.hydrogenconference.org>

### **3. Video Volunteer Sought**

Many thanks to longtime member Stan Heinemann for videotaping and publishing past CHBC meetings. Stan is moving to Oregon and has all of our best wishes. In his absence, CHBC is looking for a volunteer to video future meetings. Please contact Managing

Director Catherine Rips (info@californiahydrogen.org, 760-341-2924) if you are interested.

#### **4. BP Invests \$8 Billion in Alternative Energy**

BP announced recently that it plans to double its investment in alternative and renewable energies to create a new low-carbon power business with the growth potential to deliver revenues of around \$6B a year within the next decade. By building on the success of BP Solar -- which expects to hit revenues of \$1 billion in 2008 -- BP Alternative Energy will manage an investment programme in solar, wind, hydrogen and combined-cycle-gas-turbine (CCGT) power generation, which could amount to \$8B over the next 10 years. <http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7012352>

#### **5. Hydrogenics Targets End Users with New HyPM Products**

Hydrogenics Corp. announced its next generation HyPM 500 Series Fuel Cell Power Modules, with or without integrated DC power options, and HyPM Fuel Cell Power Packs. The goal is to be close to 'plug and play.' The design of the new HyPM Fuel Cell Power Packs incorporates Hydrogenics' proven success with fuel cell hybrid platforms, based both on ultracapacitors and batteries. [http://www.hydrogenics.com/ir\\_newsdetail.asp?RELEASEID=179726](http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=179726)

#### **6. Honda's Home Energy Station III**

Honda R&D Americas, Inc., in conjunction with technology partner Plug Power Inc., introduced the Home Energy Station III, which provides heat and electricity for the home as well as fuel for a hydrogen-powered fuel cell vehicle. This third generation unit is located at the company's North American headquarters in Torrance, CA. Home Energy Station III is roughly 30 percent smaller than its predecessor with an approximate 25-percent increase in electrical power output. Hydrogen storage and production capacity are both improved by about 50 percent with the use of a new, high-performance, natural gas reformer. The Home Energy Station III is also able to function as a backup power generation system during power outages by using the hydrogen in the storage tank to power the internal fuel cell, providing as much as 5 KW of electrical power to the home in normal and emergency conditions. <http://world.honda.com/news/2005/c051114.html>

#### **7. Mazda will Ship HHICE Rotary in 2008**

Mazda RX-8 Hydrogen RE is a hydrogen-powered rotary engine vehicle incorporating the dual fuel system to allow use with both hydrogen and gasoline. The latest prototype features automatic transmission and an extended cruising range thanks to a larger high-pressure hydrogen tank and enhanced fuel-efficiency technologies. The flick of a switch - even while driving - engages gasoline mode and this mode switching occurs automatically when the hydrogen supply is exhausted. <http://www.mazda.co.jp/motorshow/eng/environmental/index.html>

#### **8. Intelligent Energy's Env Bike Earns Dual Award for the ENV Bike**

Intelligent Energy's ENV bike -- the world's 'first purpose-built fuel-cell motorbike' has received a prestigious award in the General Innovations category of 2005's Popular Science Best of What's New Awards. The awards are run by Popular Science magazine,

first established in 1872 and now the world's largest science and technology magazine, with 6.5 million monthly readers. The bike earned similar honors from Time magazine. It was included in the high profile 'The most amazing inventions' section of a recent issue. Intelligent Energy is a Silver member of CHBC.

[http://www.intelligent-energy.com/index\\_article.asp?SecID=15&secondlevel=798](http://www.intelligent-energy.com/index_article.asp?SecID=15&secondlevel=798)

### **9. Los Angeles Airport Hydrogen-Fueled Demonstration Vehicle**

The Los Angeles Board of Airport Commissioners approved a participant agreement with Mercedes-Benz USA, its parent-company DaimlerChrysler Corporation, and the U.S. Department of Energy to evaluate the use of a prototype zero-emission passenger vehicle that utilizes a hydrogen-fuel cell drive system (F-cell vehicle) in a real-world setting. The agreement calls for Los Angeles International Airport (LAX) to become the only U.S. airport to participate in the "Controlled Hydrogen Fleet and Infrastructure Demonstration and Validation Project" awarded to DaimlerChrysler by the U.S. Department of Energy. The project will include two other field test sites in California and only 30 F-cell vehicles are being placed throughout the nation under a cooperative agreement between the Energy Department and DaimlerChrysler.

<http://www.californiahydrogen.org/page.cfm?content=20&display=43>

### **10. GTI to Develop Hydrogen Fueling Station Technology for Texas**

Gas Technology Institute (GTI) and the State of Texas Commission on Environmental Quality (TCEQ) have signed an agreement for the development of hydrogen fueling station technology as part of the TCEQ's New Technology Research and Development Program to reduce emission sources in Texas. The natural gas-to-hydrogen fueling stations will use GTI-developed steam methane reforming technology as well as GTI's Hydrofil dispenser control algorithm for accurately filling hydrogen-powered vehicles. In other news, GTI was recently awarded a U.S. patent for a novel technology for direct splitting of water to produce hydrogen from solar energy. Significantly, all 26 of the technical claims were allowed.

<http://www.gastechnology.org/webroot/app/xn/xd.aspx?it=enweb&xd=6newsroom\texashydrogenfuelingstation.xml>

<http://www.gastechnology.org/webroot/app/xn/xd.aspx?it=enweb&xd=6newsroom\gtigranteddirectsolarhydrogenpatent.xml>

### **11. Faster Freight - Cleaner Air 2006**

Held January 30-February 1, the Faster Freight-Cleaner Air (FFCA 2006) conference and expo will highlight solutions and resources to improve operations and reduce air emissions from the goods movement industry while creating healthy communities. The three-day event will be held at the Long Beach Convention Center adjacent to the Ports of Long Beach and Los Angeles.

<http://www.ffca2006.com>

### **12. Integrating Hydrogen into the ICTC**

The recently completed report, "Strategy for the Integration of Hydrogen as a Vehicle Fuel into the Existing Natural Gas Vehicle Fueling Infrastructure of the Interstate Clean Transportation Corridor Project," by Gladstein, Neandross & Associates is now available

for free download.

<http://www.nrel.gov/vehiclesandfuels/ngvtf/pdfs/38720.pdf>

### **13. Free 2005 Fuel Cell Industry Survey from PricewaterhouseCoopers**

Aggregate revenues for public companies in the fuel cell sector decreased slightly in 2004 to US\$234 million, down 4% from US\$244 million in 2003. Net losses in the sector grew to US\$465 million from US\$387 million in 2003. The PwC 2005 Fuel Cell Industry Survey focuses on the 2004 year-on-year financial results of the world's 20 publicly traded companies whose primary business is in the areas of fuel cell production, system integration, and/or related fuelling infrastructure.

[Survey](#)

### **14. Toyota Worldwide Hybrid Sales Top 500,000**

If you are discouraged with initial low quantity sales of hydrogen technology, consider that any disruptive technology takes years to achieve major market success. In 1997, Toyota sold only 300 hybrids. Cumulative worldwide sales of Toyota hybrids have topped the 500,000 mark, with approximately 513,000 units sold worldwide by the end of October this year. The majority of those sales (426,800, or 83%) come from the Prius. [http://www.greencarcongress.com/2005/11/toyota\\_worldwid.html](http://www.greencarcongress.com/2005/11/toyota_worldwid.html)

### **15. Department of Transportation's New Hydrogen Roadmap**

DOT has published a new 42-page roadmap that covers these four areas: Road 1: Safety Codes, Standards, and Regulations; Road 2: Infrastructure Development and Deployment; Road 3: Safety Education, Outreach and Training; and Road 4: Medium- and Heavy-duty Vehicle Development, Demonstration, and Deployment.

[http://www.rita.dot.gov/publications/hydrogen\\_roadmap/](http://www.rita.dot.gov/publications/hydrogen_roadmap/)

### **16. Argonne National Laboratory Forecasts 5.7 Quads Demand for Hydrogen**

Hydrogen demand in a new report from Argonne is forecast to be substantial: nearly 5.7 quads (quadrillion BTUs) -- the energy of about 45 billion gallons of gasoline. Among the conclusions is that coal will match natural gas as the largest source of hydrogen by 2030, and then move into the lead, providing 26.5% of the hydrogen to fuel the hydrogen highway by 2050. Biomass-derived hydrogen (via gasification) comes in second by 2050, with 23.9%, followed by distributed electrolysis, with 17.6%. The report is considered flawed for ignoring a well-to-wheels analysis of the energy, greenhouse gas and criteria pollutant emissions involved in each of these pathways.

[http://www.greencarcongress.com/2005/11/argonne\\_coal\\_an.html](http://www.greencarcongress.com/2005/11/argonne_coal_an.html)

### **17. Green Coast Foundation**

The Green Coast Foundation has posted a number of articles from CHBC members. This new blog site allows others to add comments. Read the latest articles about hydrogen vehicles, fuel cells, energy markets, wind power, policy and clean energy.

<http://www.greencoast.org/blog/>

### **18. India's First Hydrogen Fueling Station Opened by Air Products**

The opening of India's first hydrogen fueling station officially launched Phase 1 of the country's Hydrogen Economy. The facility, a hydrogen/compressed natural gas (HCNG)

blend and pure hydrogen dispensing station, is located at the Indian Oil Corp. Limited's R&D centre, in Faridabad, just north of New Delhi. The fuelling station, owned by the Indian Oil Corporation Limited (IOCL), has been supplied by Air Products and its Indian joint venture company INOX Air Products Ltd.

<http://www.airproducts.com/PressRoom/CompanyNews/Archived/2005/11Oct05uk.htm>

### **19. India's Hydrogen Roadmap: 1M Hydrogen Vehicles and 1,000 MW Hydrogen Power by 2020**

The Indian national steering group on hydrogen energy, headed by industrialist Ratan Tata, has developed a roadmap to have 1 million hydrogen-fueled vehicles -- internal combustion engine as well as fuel-cell vehicles on Indian roads by 2020 and to generate 1,000 MW of power through hydrogen-fueled plants.

[http://www.greencarcongress.com/2005/11/indias\\_hydrogen.html](http://www.greencarcongress.com/2005/11/indias_hydrogen.html)

### **20. Future CHBC Meeting Dates - Save These Dates**

The next CHBC General Meeting, hosted by the Bay Area AQMD, will be held February 10, 2006 at the Cathedral Hill Hotel, Van Ness Street, San Francisco, CA. Other dates to remember are: May 19, 2006 General Meeting, location to be announced; September 15, 2006 General Meeting at South Coast AQMD, Diamond Bar, CA; and December 7, 2006, our first Annual Dinner Meeting and Holiday Party, location to be announced.

### **21. CHBC Gold and Silver Members**

CHBC gives a big thanks to our growing list of Gold and Silver Members, who are major contributors to our growth and success.

<http://www.californiahydrogen.org/page.cfm?content=61>

<http://www.californiahydrogen.org/page.cfm?content=33>

### **22. 2005 CHBC Board of Directors**

President - Henry Wedaa; Vice President - Paul Scott, PhD; Managing Director - Catherine Rips; Secretary - Josh Mauzey; Treasurer - John Williams, PE; Membership Chairman - Mark Abramowitz; Northern California Membership - John Addison; Central California Membership - Gene Johnson; Communications Director - Jerald Cole; Program Chairman - Henry Wedaa; Director at Large - Gary Dixon; Director at Large - Jon Slangerup; Ex-Officio Government Liaison - Shannon Baxter-Clemmons, PhD. To contact the board, please click [info@californiahydrogen.org](mailto:info@californiahydrogen.org).

### **23. Join the CHBC**

Be involved with the leaders in making the hydrogen economy a reality. CHBC is a non-profit organization, which offers a common meeting ground for discussing the technologies, methodologies, and opportunities in the hydrogen economy. Gold Membership is \$5,000 per year; Silver Membership is \$1,000 per year. Both provide meeting discounts and valuable marketing opportunities. Individual membership is \$200 per year. To join, visit our website or call (760) 341-2924 with your credit card.

<http://www.californiahydrogen.org/page.cfm?content=6>

### **24. Send Us Your News!**

We welcome important news from our members for inclusion on our website and in next

month's report. Please send to: [info@californiahydrogen.org](mailto:info@californiahydrogen.org). Thank you for helping build a great organization.