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1. Welcome New Members

CHBC welcomes new Silver member TIAX, LLC and Individual members Glenn Rambach and Jeffery Burt. We appreciate your support!
<http://www.tiaxllc.com>

2. November 14 CHBC Meeting is Cancelled

Due to competing industry meetings including the Fuel Cell Seminar and associated workshops, CHBC has cancelled its November 14 meeting. See you instead at our February 10, 2006 meeting at Bay Area AQMD San Francisco, CA.

3. SMUD Receives Seven Fuel Cell Vehicles

The Sacramento Municipal Utility District (SMUD) has received five hydrogen fuel cell vehicles from Ford Motor Co. and two from DaimlerChrysler for testing in a real-world driving environment RD&D project. Sacramento is one of the seven U.S. cities chosen for testing the vehicles as part of the U.S. Department of Energy Hydrogen Learning

Demonstration Project. BP will supply hydrogen for the vehicles.

http://www.smud.org/news/releases/05archive/09_08_fuelcell.pdf

4. Ford Delivers Five Cars to Florida with Eight HICE Buses to Follow

Ford Motor Co. delivered three hybrid hydrogen Ford Focus fuel cell vehicles to the Florida Department of Environmental Protection (DEP) and two to Progress Energy. In addition to the fuel cell demonstration fleet, Ford will support Florida's hydrogen initiative with the production of eight hydrogen ICE shuttle buses for use in the Orlando area. Ford's 4.2-liter, V-6 industrial engine converted and calibrated to run on hydrogen will power two TUG M1 tow tractors for use at the Orlando International Airport.

http://media.ford.com/newsroom/release_display.cfm?release=21628

5. UTC Fuel Cell Achieves FCV Milestone in Nissan X-Trail

One of UTC Power's S500 model transportation fuel cells successfully powered a 2003 Nissan X-Trail FCV for more than 25,000 trouble-free kilometers - a significant milestone for automotive fuel cells. The vehicle was subjected to real-world driving conditions over various terrains and under different climates.

<http://www.utc.com/press/releases/2005-07-18.htm>

6. U.S. Army and Chevron Technology Ventures Partner in Development of Hydrogen Fueling Technologies

Chevron Technology Ventures LLC has signed its first Cooperative Research and Development Agreement (CRADA) with the U.S. Army's Tank and Automotive Research, Development and Engineering Center (TARDEC) to further hydrogen fueling technologies. This agreement is the first CRADA for the development of hydrogen infrastructure technologies between a major international integrated energy company or its subsidiary and TARDEC. It establishes a formal relationship under which Chevron Technology Ventures and TARDEC can collaborate and share knowledge and resources to install, test, evaluate and demonstrate integrated hydrogen production and infrastructure technologies.

<http://www.californiahydrogen.org/page.cfm?content=20&display=40>

7. Air Products Selects FuelCell Energy For Development Of Co-Producing

Air Products awarded a subcontract to FuelCell Energy, Inc. under a U.S. Department of Energy Cooperative Agreement to evaluate, design and demonstrate a next-generation Hydrogen Energy Station (HES). The HES will build upon FuelCell Energy's ultra-clean Direct FuelCell (DFC) power plants and Air Products' advanced gas separation technologies. The HES is directed toward co-producing hydrogen for vehicle fueling and electrical power from a single system using readily available fuels such as natural gas, propane and anaerobic digester gas from municipal and industrial wastewater treatment

facilities.

<http://www.airproducts.com/PressRoom/CompanyNews/Archived/2005/03Aug05.h>

8. Hydrogenics Moves Ahead on Light Mobility Deployments of HyPM

Hydrogenics Corp. reports that the company's light mobility program, undertaken two years ago as a key strategic priority, is achieving desired outcomes in the areas of targeted early adopter engagement, focused product development, and potential distribution channels.

http://www.hydrogenics.com/ir_newsdetail.asp?RELEASEID=169964

9. Ballard Power Systems Agreement Signed With General Hydrogen For More

Ballard Power Systems has signed a Supply Agreement with General Hydrogen to deliver more than 100 Mark9 SSL fuel cells, ranging in power output from 4.8 kilowatts to 21.1 kilowatts, for integration into General Hydrogen's power units, currently available for early commercial sales in the lift truck market. Ballard expects to begin unit deliveries in the fourth quarter of 2005. The Supply Agreement runs through the fourth quarter of 2006. Dr. Geoffrey Ballard is a founder of both companies.

http://www.generalhydrogen.com/news_company_2005_09_08.shtml

10. APFCT to Deliver 40 Fuel Cell Scooters in Taiwan

Asia Pacific Fuel Cell Technologies, Ltd. (APFCT) has been awarded a 40-vehicle fleet demonstration project for hybrid fuel cell-powered scooters by the Taiwan Ministry of Economics. The total proposed program budget is over US\$4.6 million. APFCT has a branch research laboratory in Anaheim, CA.

<http://www.apfct.com/>

11. NanoLogix to Use Bioreactor to Generate Hydrogen

NanoLogix, Inc. has signed an agreement to generate hydrogen from a NanoLogix scale-up bioreactor system using Arrowhead Wine Cellar's waste organic matter. The NanoLogix reactor utilizes a patent-pending proprietary method of synergistically combining a bacteria-based hydrogen production method with excess organic waste from Arrowhead's winery.

<http://biz.yahoo.com/prnews/050714/clth015.html?v=18>

12. Chrysalix Energy Invests Venture Capital in Cyrim, SiM Composites and

Chrysalix Energy Management, a global venture capital firm focused on early-stage clean energy technologies, recently announced three new investments. Cyrium Technologies is applying its proprietary nanostructures to GaAs photovoltaic (PV) solar cells with the expectation of a dramatic increase in efficiency and radiation hardness. SiM Composites

is creating proton exchange materials based on multifunctional silica and polymer. Ardica Technologies is producing a simple, low cost fuel cell system with a unique fuelling solution that promises remarkable energy density and several new consumer product concepts. The team and early technology direction are originally from Stanford University.

<http://biz.yahoo.com/prnews/050714/clth015.html?.v=18>

13. NextEnergy Signs Agreements with Automakers

NextEnergy, Detroit's alternative energy R&D incubator, has signed agreements with DaimlerChrysler, Ford Motor Company and General Motors to deliver a Codes and Standards Project which will support the implementation of commercial hydrogen infrastructure. This project is a part of the broader U.S. Department of Energy Hydrogen Fleet Demonstration and Validation Program grants, which were announced last fall. The purpose of the Codes and Standards Project is to assist states in preparing their government agencies to establish the foundation for permitting and oversight of the hydrogen fuel used in the transportation sector.

<http://www.nextenergy.org/>

14. Worldwide Fuel Cell Installation Database from Fuel Cells 2000

Fuel Cells 2000's newly updated 65 page listing of worldwide fuel cell installations is now available for free. Fuel Cells 2000, an activity of the Breakthrough Technologies Institute, has posted its comprehensive Worldwide Fuel Cell Installations chart, increasing the chart to 65 pages of operational and technical data on worldwide fuel cell installations.

<http://www.nextenergy.org/>

15. Fuel Cells in Distributed Telecom Backup Report from Citigroup

Citigroup has published "Switch Signals: Fuel Cells in Distributed Telecom Backup," taken from in-depth surveys with more than 50 telecommunications industry contacts to assess the state of fuel cell commercialization as a backup power solution. According to results, the primary criteria power purchasers use to judge backup power solutions are cost and reliability. Citigroup estimates show that fuel cells are 32% and 35% less expensive than battery backup power solutions based on a 10- and 15-year useful life and a five-year battery replacement cycle, including energy tax credits. Without the credits, fuel cell life cycle costs are 12% and 18% less expensive on the same bases. This free report can be downloaded.

<http://www.nextenergy.org/>

16. Triazole Could Revolutionize Polymer Fuel Cells

While polymer electrolyte membrane (PEM) fuel cells are widely considered the most promising fuel cells for portable use, their low operating temperature and consequent low efficiency have blocked their jump from promising technology to practical technology. But

researchers at the Georgia Institute of Technology have pinpointed a chemical, triazole, that could allow PEM fuel cells to operate at a much higher temperature without moisture, potentially meaning that polymer fuel cells could be made much more cheaply and run at temperatures high enough to make them practical for use in cars and small electronics. The findings were published in the Journal of the American Chemical Society. <http://www.cleandedge.com/story.php?nID=3727>

17. Congratulations!

At the conclusion of the September 16 CHBC General Meeting, Richard Schoen of Stellar Energy Solutions won the first door prize - a Canon zoom digital camera, valued at \$200. Karen Farell took second prize - complimentary admission to the next CHBC General Meeting she attends. Third prize -- a \$50 gift certificate to Best Buy, went to Carl Baust of the Orange County Fire Department. Congrats to all. We appreciate your staunch support!

18. Future CHBC Meeting Dates - Save These Dates

February 10, 2006: Bay Area AQMD San Francisco, CA. May 19, 2006; September 15, 2006; December 8, 2006: Locations to be announced

19. CHBC Silver Members

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

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

20. CHBC Board of Directors

President - Henry Wedaa; Vice President - Paul Scott, ScD; Secretary - Josh Mauzey; Treasurer - John Williams, PE; Managing Director - Catherine Rips; Membership Chairman - Gene Johnson; Dinner Meeting Chairman - Elias Azrak; Communications Director - Jerald Cole; Newsletter Chairman - John Addison; 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 email info@californiahydrogen.org.

21. Join the California Hydrogen Business Council

Get 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 business opportunities in the hydrogen economy. Silver Membership is \$1,000 per year and allows organizations to send five people to each meeting at reduced member rates, plus provides valuable marketing opportunities.

Individual membership is \$200 per year. To join, visit our website or call (760) 341-2924 with your credit card.

22. 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. Thank you for helping build a great organization.

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