CHBC News: November 2005

1. Get a New Member, Get in Free!

Help spread the joy of participating in the California Hydrogen Business Council! Current members may take part in our promo: "Get a new member, get into your next meeting free." Just contact Managing Director Catherine Rips, info@californiahydrogen.org, to sign up your friends and associates. And speaking of our next meeting, please Save the Date: February 10, 2006 for a General Meeting at Bay Area AQMD in San Francisco.

2. Fuel Cell Buses Carry 5 Million Passengers

30 CUTE hydrogen fuel cell buses in the EU plus three more in Australia have transported 5 million people. Meanwhile, these 33 buses have together clocked up a total of 70,000 operating hours and passed the mark of one million kilometers -- a performance that far surpasses all previous trials of fuel cell buses.
http://www.fuelcellsworks.com/Supppage3758.html

3. Westport Innovations Participates in Waste H2 Project

Westport Innovations has announced participation in an $18.3 million hydrogen technologies project supported by the Government of Canada, Sustainable Development Technology Canada (SDTC), and a consortium of Vancouver-based industry partners, led by N. Vancouver-based Sacre-Davey Innovations Inc. The three-year Integrated Waste Hydrogen Utilization Project will make use of an existing but currently untapped source of hydrogen fuel - hydrogen emitted as the by-product of a sodium chlorate manufacturing plant in the N. Vancouver area. The demonstration will initially involve the operation of eight light-duty trucks running on hydrogen; a fuel cell system operating on hydrogen and providing electrical power and heat to a car wash, and four public transit buses converted by Westport for Vancouver's TransLink fleet to run on a blend of hydrogen and compressed natural gas (HCNG). Clean Energy is a project partner for HCNG fueling. Westport and Clean Energy are Silver Members of CHBC.

http://www.westport.com/news/newsdetail.php?id=288&return_to=index.php

4. CalStart 2020 Meeting in LA on December 1
CHBC is a support sponsor of the 2005 California's Transportation Energy Future Conference & Blue Sky Awards held December 1 at the LA Convention Center. Former CIA Director James Woolsey will be one of the speakers. Soaring gas prices, geopolitical instability, economic detriments, and global warming have become every day news. The costs of petroleum dependence have never been higher, but the potential for change has never been greater!
http://www.westport.com/news/newsdetail.php?id=288&return_to=index.php

5. Linde Invests 20 Million Euros In New Hydrogen Liquefaction Plant
For Prof. Dr.-Ing. Wolfgang Reitzle, President of the Executive Board and CEO of Linde AG, the new plant is an investment for future business fields: "The liquefier in Leuna ensures primarily the supply of our industrial hydrogen customers. In the long term, the plant will additionally be an important module in the future network of hydrogen filling stations to be implemented throughout Europe in the years to come. Together with our partners we currently work hard to set up this infrastructure." Germany's only hydrogen liquefier up to now - also a Linde plant - is based at Ingolstadt. Today one of the main consumers is the semiconductor industry which almost entirely uses liquid hydrogen due to the very high purity. Since hydrogen will be used more extensively to fuel road vehicles, LH2 demand is expected to increase significantly in the following years. Linde is a Silver Member in CHBC.
http://www.linde.de/WGAP/internet/html/default/kner6fykyt.en.0;jsessionid=0000kiijTM7XYUX0E2QOHn9Y6

6. Quantum Wins Contract to Develop Ultra-lightweight Hydrogen and Oxygen Storage
Quantum has been awarded a contract by Lockheed-Martin to develop a hydrogen and oxygen fuel storage module for a regenerative power supply system for space exploration. The storage system will also be designed to withstand the extreme conditions experienced on lunar surfaces.
http://www.prnewswire.com/news/index_mail.shtml?ACCT=104&STORY=/www/story/10-24-2005/0004192789&EDAT

7. UTC and FuelCell Energy Compete for 100MW of Fuel Cells
In the quest to promote new energy technology, two Connecticut companies are locked in a high-stakes battle to build the world's largest fuel cell power plant on Long Island. UTC Power, a division of United Technologies Corp., and FuelCell Energy are vying to build a 10-megawatt plant planned by the Long Island Power Authority. A larger future opportunity is a Connecticut-based push for renewable power known as Project 100 that calls for the state's utilities to contract for 100 megawatts of generation from renewable sources, including fuel cells, by 2007.
http://www.fuelcellsworks.com/Supppage3734.html

8. VTA Logs 13,000 Miles on FC Buses

As part of a VTA/SamTrans joint Zero-Emission Bus (ZEB) Demonstration Program, funded in part by CHBC Silver Member Bay Area AQMD, three ZEBs have been in transit service on selected VTA routes since February 2005 and have operated nearly 13,000 miles. "During the life of this program, ZEB operation on VTA's local bus routes will contribute to a greater understanding of the potential application of hydrogen fuel-cell technology throughout the public transportation industry," said VTA General Manager Michael Burns. "Our efforts will help move this new technology closer to becoming commercialized and available to public transit systems across the country."
http://www.vta.org

9. Contact Your Legislators
Now is the time to contact your legislators to educate them on the importance of continuing the California Hydrogen Highway Network program! For sample messages, contact info@californiahydrogen.org.

10. DuPont Fuel Cells Delivers Major Advance for Membrane Durability
DuPont Fuel Cells has announced product improvements that dramatically increase the durability and lifetime of fuel cell membranes, dispersions and Membrane Electrode Assembly (MEA) components for hydrogen based fuel cells. DuPont polymers with improved chemical stability prolong durability and lifetime in a fuel cell because they are less vulnerable to the degrading effects of chemical attack on the polymer. Fluoride ion release and the resulting membrane thinning are common measures of membrane chemical attack. The lifetime of chemically stabilized membranes has been increased by a factor of seven.
http://www.dupont.com/fuelcells/pdf/pressrel_10262005.pdf

11. Free Fuel Cell Industry Report 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. Public companies comprise less than one-third of the fuel-cell industry, which includes private firms and subsidiaries of big industrial companies. The industry is developing PEM and solid-oxide fuel cells to generate power for portable, stationary, and vehicle applications, as well as the hydrogen and other infrastructure needed to support the technology. Sales of fuel-cell components or systems are mainly being made to government agencies, utility companies and large auto manufacturers for pre-commercial technology development and demonstration.
http://www.pwc.com/extweb/ncsurvres.nsf/docid/0156308D26DD0F3E85256DA9005897C2

12. Micro-Power Fuel Cells for Mobile Devices Will Catalyze Fuel Cell Market, Says CEO
Micro-power fuel cells, intended to power portable electronic devices such as cell phones, PDAs and laptop computers, will be the key technical and economic driver for the entire fuel cell market -- including stationary and automotive applications, says Jim Balcom, president and CEO of PolyFuel. Balcom made his remarks to assembled industry experts at the Ninth Grove Fuel Cell Symposium. Of the three key segments of the fuel-cell market, portable applications will be ready for liftoff first. Cost and performance of the

technology are in line, volume distribution channels are already in place, and a huge, pent-up market demand is developing.
http://www.cleanedge.com/

13. 60 Companies Face Challenges in Micro Fuel Cell Competition
NanoMarkets is estimating the market to be worth $1.6 billion by 2010. But the products have been notoriously slow to hit store shelves. "With micro fuel cells, they're always two years off," said Rob Enderle. "The fact is, we are finally seeing light at the end of the tunnel. People are building prototypes that seem to work." There's no lack of competition. More than 60 companies are working on micro fuel cells that use methanol, according to a Mountain View company that makes a key piece of such cells.
http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2005/10/24/BUGEMFC7761.DTL

14. Fuel Cells Science & Technology Conference
Mark your calendars for this conference, September 13-14, 2006, in Turin, Italy. Papers are due by January 26. The Fuel Cells Science & Technology Conference was launched in 2002 by the organizers of the Grove Fuel Cell Symposium to provide a dedicated scientific forum to bring together the various disciplines of basic scientific research underpinning technological developments in fuel cell developments and applications.
http://www.fuelcelladvances.com/scope.htm

15. 2005 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, PhD. To contact the board, please email info@californiahydrogen.org.

16. Be a Member of the California Hydrogen Business Council
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. 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.

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

17. 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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